Haier SERVICE MANUAL

LED TV

Model No. LE26B13200
LE32B13200

MSD318 **Chassis**

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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Haier Group

Chapter 1: General Information

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1-2. General Guidelines

When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.

After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.
1) Leakage Current Cold Check
2) Leakage Current Hot Check
3) Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive

1-3. Important Notice

1-3-1. Follow the regulations and warnings

Most important thing is to list up the potential hazard or risk for the service personnel to open the units and disassemble the units. For example, we need to describe properly how to avoid the possibility to get electrical shock from the live power supply or charged electrical parts (even the power is off).

This symbol indicates that high voltage is present inside.It is dangerous to make any king of contact with any inside part of this product.

This symbol indicates that there are important operating and maintenance instructions in the literture accompanying the appliance.

1-3-2. Be careful to the electrical shock

To prevent damage which might result in electric shock or fire, do not expose this TV set to rain or excessive moisture. This TV must not be exposed to dripping or splashing water, and objects filled with liquid, such as vases, must not be placed on top of or above the TV.

1-3-3. Electro static discharge (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. The following techniques should be used to help reduce the incidence of component damage caused by electros static discharge (ESD).

1-3-4. About lead free solder (PbF)

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repairing of this product.

1-3-5. Use the genewing parts (specified parts)

Special parts which have purposes of fire retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

Safety Component

● Components identified by mark have special characteristics important for safety.

1-3-6 Safety Check after Repairment

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the positions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
   a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
   b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.

CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe.

Do not test high voltage by "drawing an arc".

3. Do not spray chemicals on or near this receiver or any of its assemblies.

4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).

CAUTION: This is a flammable mixture.
Unless specified otherwise in this service manual, lubrication of contacts is not required.
Capacitors may result in an explosion hazard.

5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.

6. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.

7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.

Always remove the test receiver ground lead last. Capacitors may result in an explosion hazard.

8. Use with this receiver only the test fixtures specified in this service manual.

CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

9. Remove the antenna terminal on TV and turn on the TV.

10. Insulation resistance between the cord plug terminals and the eternal exposure metal should be more than Mohm by using the 500V insulation resistance meter.

11. If the insulation resistance is less than M ohm, the inspection repair should be required. If you have not the 500V insulation resistance meter, use a Tester. External exposure metal: Antenna terminal Headphone jack

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the ncidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.

4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it.
(Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

1-3-7. Ordering Spare Parts

Please include the following informations when you order parts. (Particularly the Version letter)

1. Model number, Serial number and Software Version
The model number and Serial number can be found on the back of each product and the Software Version can be found at the Spare Parts List.

2. Spare Part No. and Description
You can find them in the Spare Parts List

1-3-8. Photo used in this manual

The illustration and photos used in this Manual may not base on the final design of products, which may differ from your products in some way.

1-4. How to Read this Service Manual

Using Icons:
Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

Note:
A “note” provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.

Caution:
A “caution” is used when there is danger that the reader, through incorrect manipulation, may damage equipment, loose data, get an unexpected result or has to restart(part of) a procedure.

Warning:
A “warning” is used when there is danger of personal injury.

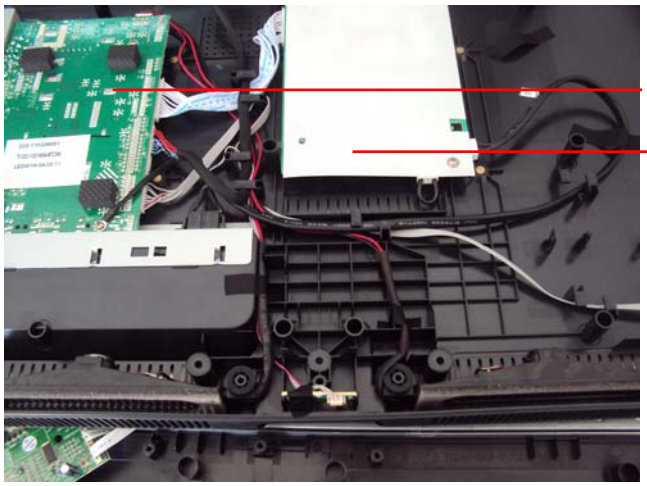
Reference:
A “reference” guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

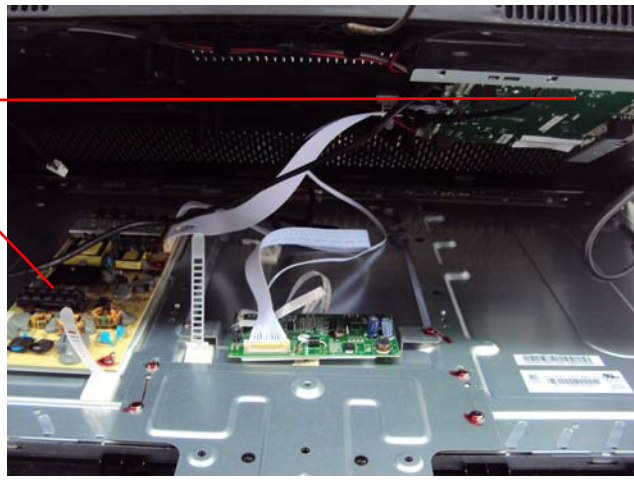
2. Specifications

Model	LE26B13200	LE32B13200
Screen Size	26 inch	31.5 inch
Aspect Ratio	16:9	16:9
Resolution	1366*768	1366 * 768
Response Time (ms)	6.5 (GRAY TO GRAY)	6.5 (GRAY TO GRAY)
Angel of View	+88/-88(H), +88/-88 (V) Typ.	+88/-88(H), +88/-88 (V) Typ.
Color Display	16777216	16777216
No. of Preset Channels	Cable :1-135/ Air: 2-69(ATV&DTV)	Cable :1-135/ Air: 2-69(ATV&DTV)
OSD Language	English	English
Color System	NTSC/PAL/SECAM	NTSC/PAL/SECAM
Audio System	M	M
Audio Output Power (Built-in) (W)	5W×2	8W×2
Audio Output Power (outer) (W)	No	No
Total Power Input (W)	55 W	90W
Voltage Range (V)	AC100V-240V	AC100V-240V
Power Frequency (Hz)	50~60Hz	50~60Hz
Net Weight (KG)	5.44	7.54
Gross Weight (KG)	7.3	8.1
Net Dimension (MM)	647*180*461mm	775*180*537mm
Packaged Dimension (MM)	730*130*520mm	864*125*599mm

3. Location of Controls and Components

3-1 Board Location





No.	Description	LE26B13200	LE32B13200
A Board	Main Board	TB300711700M	TB300711800M
B Board	Power Board	514C2632M04	514C3205M02

3-2 Main Board

3-2-1 Function Description:

Main Board

Process signal which incept from exterior equipment then translate into signal that panel can display.

3-2-2 Connector defnition

Main board connector

Power connectors (J15，J16)

J16		J15	
Pin number	Signal name	Pin number	Signal name
1	+5V	1	GND
2	BL	2	GND
3	DIM	3	+5V
4	high voltage	4	+5V
5	GND	5	POWER ON/OFF
		6	+5VSTB
		7	+5V
		8	+5V
		9	GND
		10	GND
		11	GND
		12	+12V
		13	+12V

Notes:

J16-Pin 2: Backlight on/off:

The system can turn on or turn off the backlight of TFT LCD Panel through the power supply unit path.

J15-Pin 5: System power on / standby

System board will use this pin to control system power.

J16-Pin 3: Control the luminance of backlight

The system can generate the PWM signal to control the strength of TFT LCD Panel's backlight through this connector

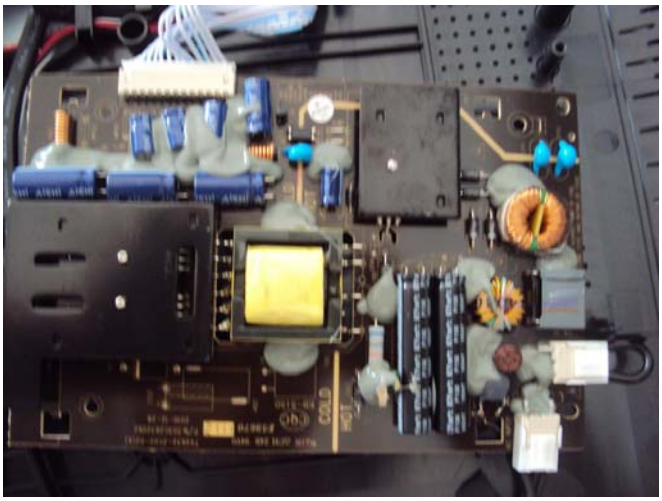
Keypad and remote connector (12)

Pin number	Signal name	Description
1	LED_R	LAMP RED
2	LED_G	LAMP GREEN
3		
4	IR	REMOTE CONTROL
5	GND	GND
6	5V	POWER FOR REMOTE
7	KEY1	
8	KEY0	
9	GND	

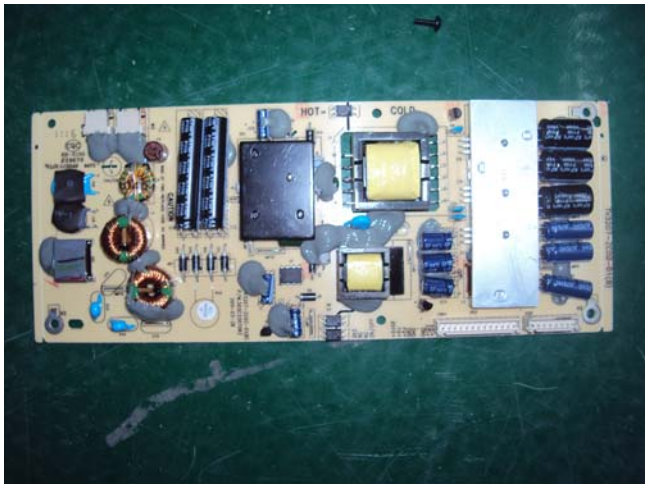
Speaker connector J11

Pin number	Signal nameD	escription
1	RSPK+	RSPK+
2	RSPK-	RSPK-
3	LSPK-	LSPK-
4	LSPK+	LSPK+

3-3. Power Board



514C2632M04



514C3205M02

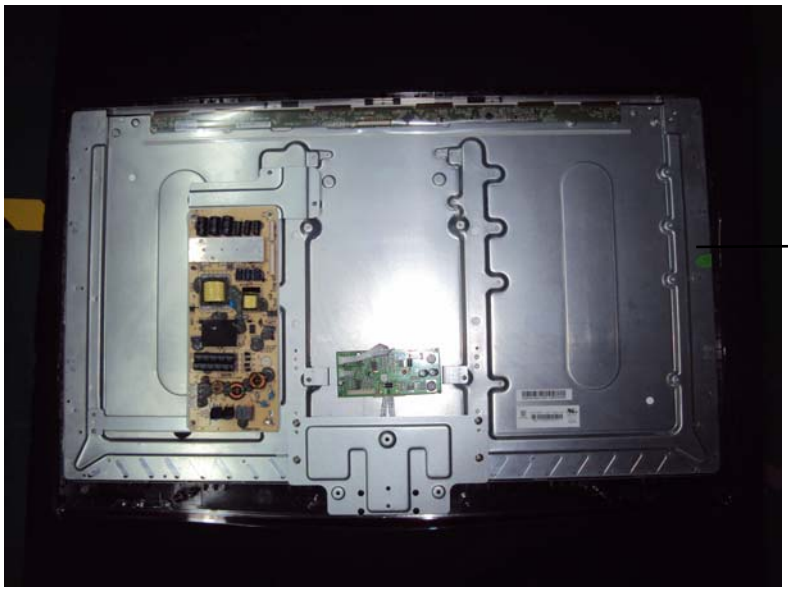
3-3-1 Function Description:

Supply power for Main board, Panel.

3-3-2Connectordefinition

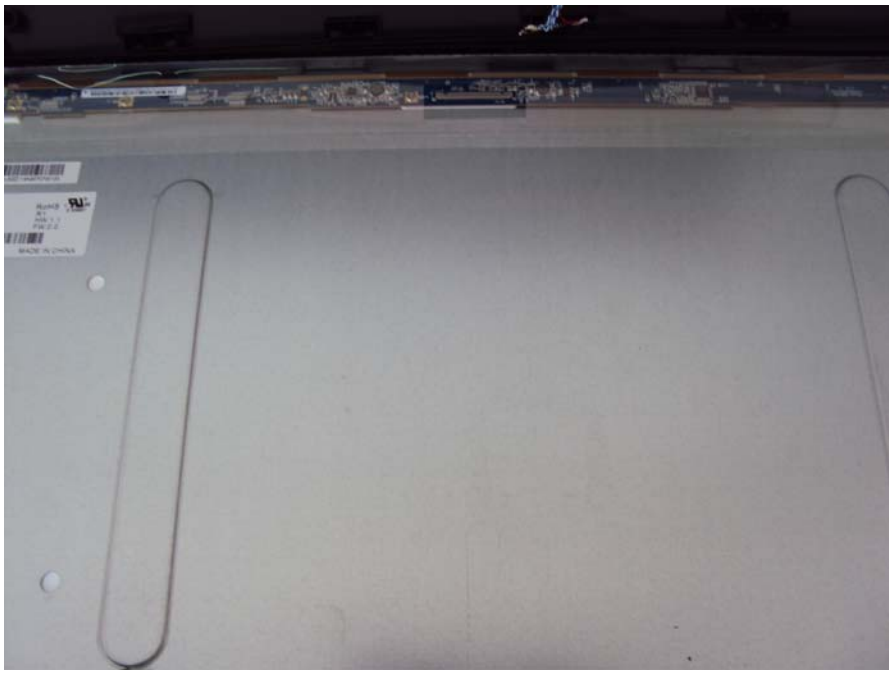
514C2632M04		514C3205M02	
CN2		CN3	
Pin number	Signal name	Pin number	Signal name
1	GND	1	GND
2	ADJ	2	GND
3	ON/BK	3	+5V
4	+5V	4	+5V
5	POWER ON/OFF	5	POWER ON/OFF
6	+5VSTB	6	+5VSTB
7	+5V	7	+5V
8	+5V	8	+5V
9	GND	9	GND
10	GND	10	GND
11	GND	11	GND
12	+12V	12	+12V
13	+12V	13	+12V

3-4. LCD Panel



MTC315LED-C02H(CMO:V315B6-P01)

LE32B13200



LE26B13200

MTC260LED-I01H(IVO: P260TWR1)

3-4-1 Function Description: Display the signal.
3-4-2 Connector definition.

LE26B13200

Pin #	Signal Name	Description	Remarks
1	NC	Not connected	
2	NC	Not connected	
3	NC	Not connected	
4	GND	Ground	
5	RX0-	Negative LVDS differential data input	
6	RX0+	Positive LVDS differential data input	
7	GND	Ground	
8	RX1-	Negative LVDS differential data input	
9	RX1+	Positive LVDS differential data input	
10	GND	Ground	
11	RX2-	Negative LVDS differential data input	
12	RX2+	Positive LVDS differential data input	
13	GND	Ground	
14	RXClk -	Negative LVDS differential clock input	
15	RXClk +	Positive LVDS differential clock input	
16	GND	Ground	
17	RX3-	Negative LVDS differential data input	
18	RX3+	Positive LVDS differential data input	
19	GND	Ground	
20	NC	Not connected	
21	NC	Not connected	
22	NC	Not connected	
23	GND	Ground	
24	GND	Ground	
25	GND	Ground	
26	VDD	power supply +12.0V	
27	VDD	power supply +12.0V	
28	VDD	power supply +12.0V	
29	VDD	power supply +12.0V	
30	VDD	power supply +12.0V	

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CNF1 Connector Pin Assignment

Pin No.	Symbol	Description	Note
1	VCC	Power supply: +12V	
2	VCC	Power supply: +12V	
3	VCC	Power supply: +12V	
4	VCC	Power supply: +12V	
5	GND	Ground	
6	GND	Ground	
7	GND	Ground	
8	GND	Ground	
9	SELLVDS	Select LVDS data format	(2)
10	ODSEL	Overdrive Lookup Table Selection	(3)
11	GND	Ground	
12	RX0-	Negative transmission data of pixel 0	
13	RX0+	Positive transmission data of pixel 0	
14	GND	Ground	
15	RX1-	Negative transmission data of pixel 1	
16	RX1+	Positive transmission data of pixel 1	
17	GND	Ground	
18	RX2-	Negative transmission data of pixel 2	
19	RX2+	Positive transmission data of pixel 2	
20	GND	Ground	
21	RXCLK-	Negative of clock	
22	RXCLK+	Positive of clock	
23	GND	Ground	
24	RX3-	Negative transmission data of pixel 3	
25	RX3+	Positive transmission data of pixel 3	
26	GND	Ground	
27	NC	No connection	(4)
28	NC	No connection	(4)
29	GND	Ground	
30	GND	Ground	

Note (1) Connector type: STARCONN 093G30-B0001A or Faxconn GS23302-1311S-7F or compatible

Note (2) Ground or OPEN: VESA, High: JEIDA LVDS format

Please refer to 5.3 LVDS INTERFACE

Note (3) Overdrive lookup table selection. The Overdrive lookup table should be selected in accordance to the frame rate to optimize image quality.

ODSEL	Note
L or Open	Lookup table was optimized for 60 Hz frame rate.
H	Lookup table was optimized for 50 Hz frame rate.

Note (4) Reserved for internal use. Left it open.

4. Disassemble and assemble

4-1 Remove the Pedestal

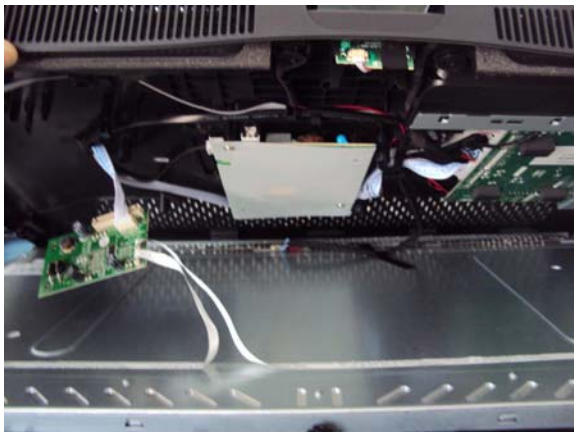
 Lay down the unit so that rear cover faces upward

 Remove the four screw from the rear cover indicated with ○

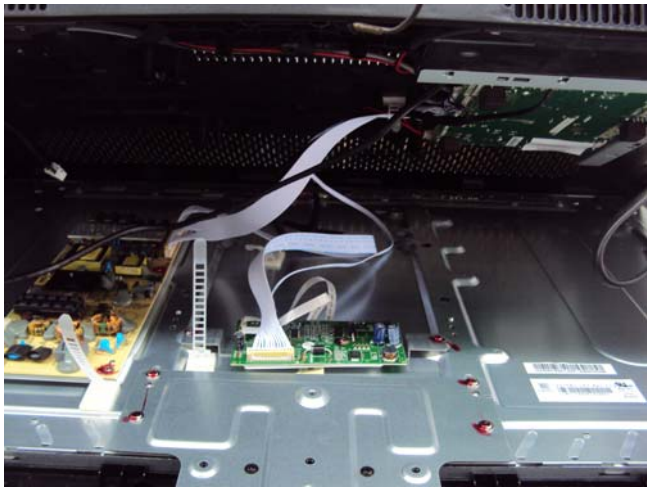
 Then remove the pedestal

4-3. Remove the adhesive tape

(The location of the adhesive tape as follows)



LE26B13200



LE32B13200

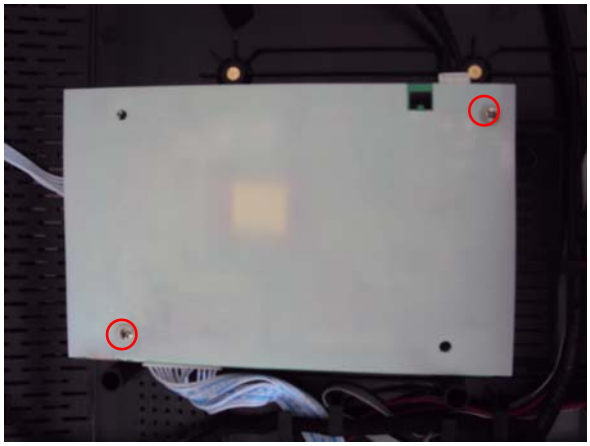
Remove the adhesive tape indicated on the figure above

4-2Remove the Back Cover

 Remove the these screw indicated on figure above by ○

 Then remove the back cover from the unit.

4-3 Remove the Terminal Bracket
4-4 Remove the power module



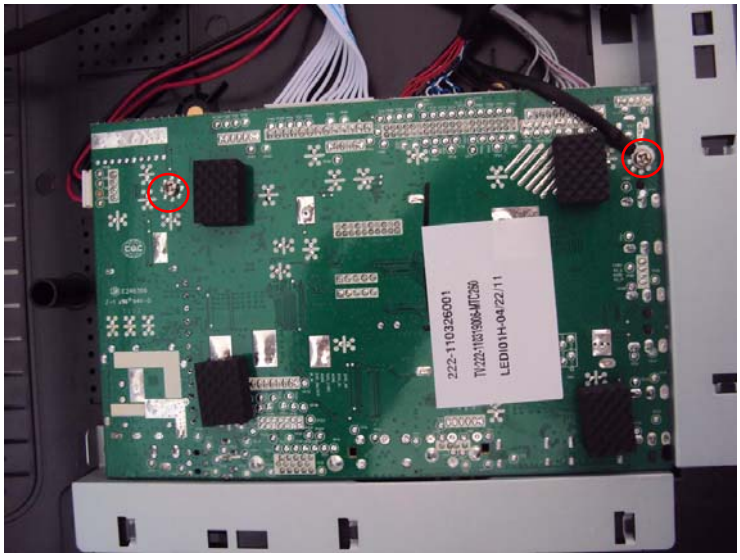
LE26B13200

□ Remove the two screw indicated on the figure above by ○
□ Then remove the power module

LE32B13200

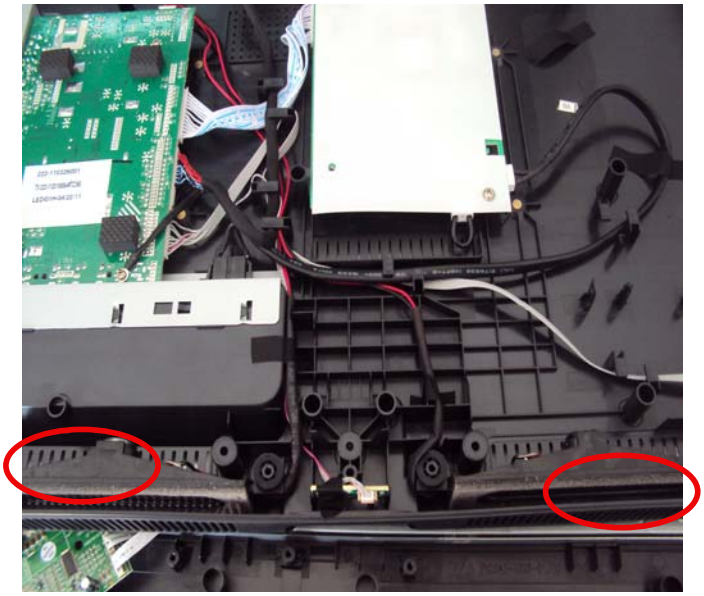
□ Remove the four screw indicated on the figure above by ○
□ Then remove the power module

4-5 Remove the Main board



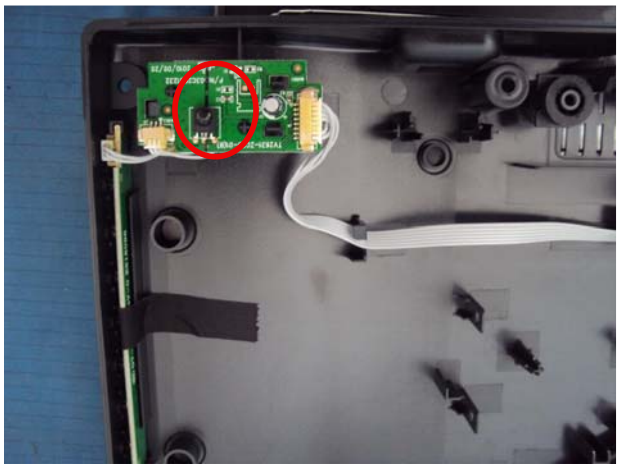
□ Remove the two screw indicated on the figure above by ○
Disconnected the coupler
J7 J9 J15 J5 J11
□ Remove the Main board

4-6 Remove the speaker



Take out the speaker

4-7 Remove the remote control



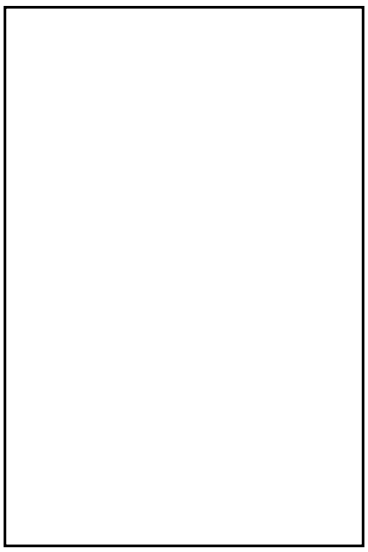
take out the remote control board

5. Installation Instructions

5-1 External Equipment Connections

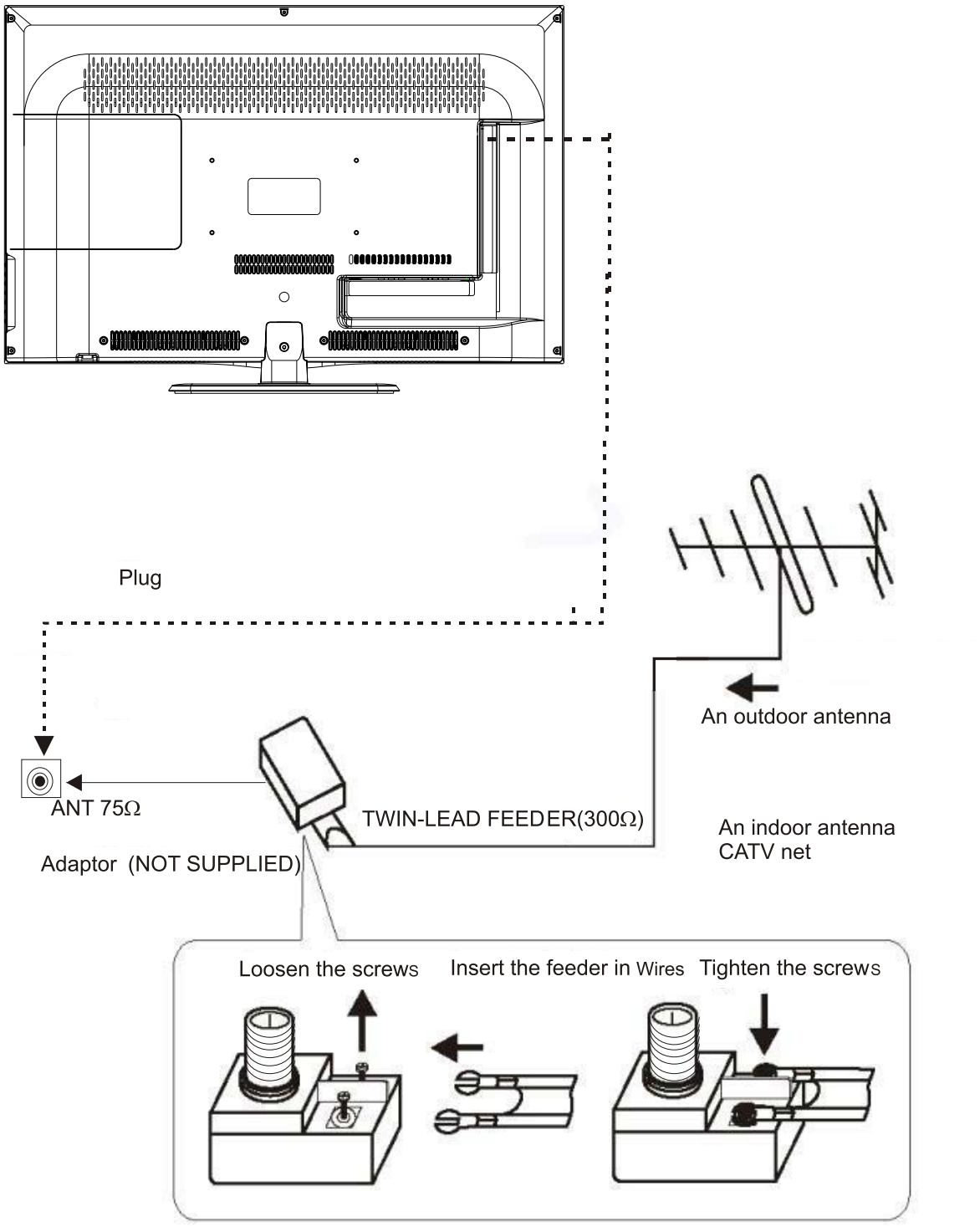
Accessories

Remote Control



User GUIDE

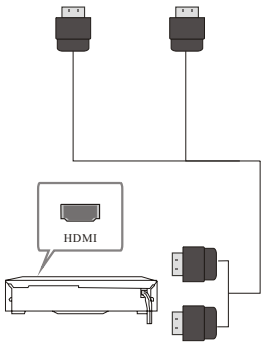
Battery

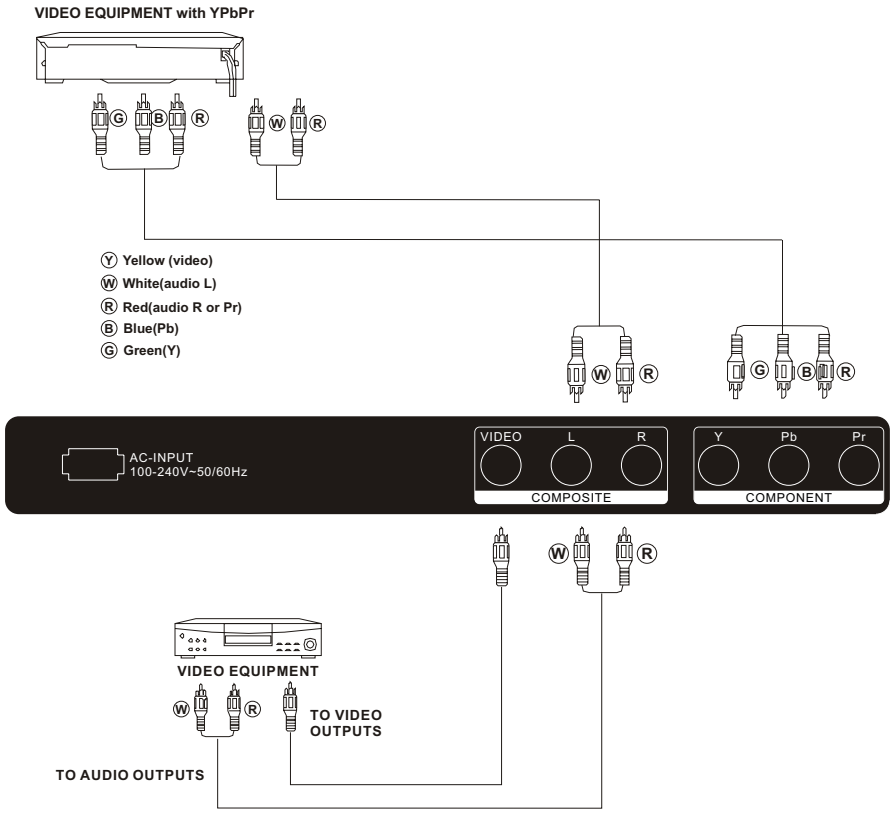


Note:
Aerial connections:IEC(female).
Input impendance:75Ωunbalanced.

AV EQUIPMENT

You can use the input terminals on TV set rear as follows.



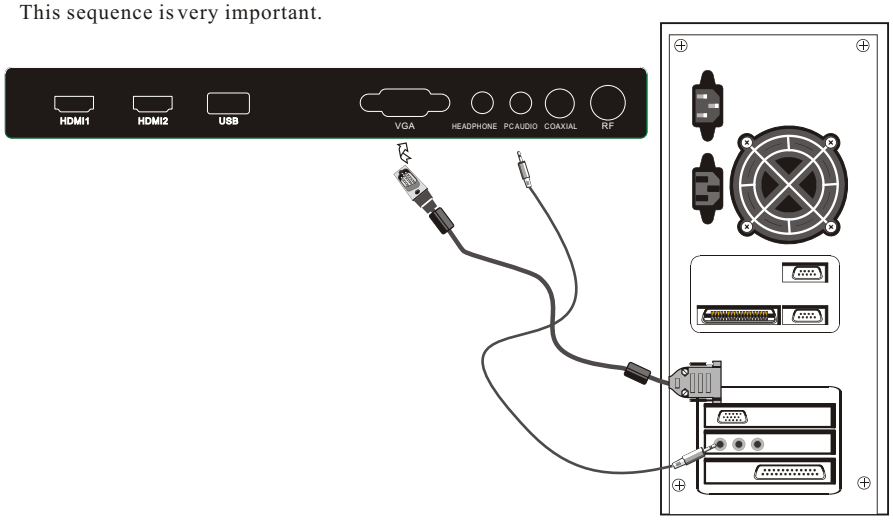


It can be connected to the following appliances: VCR, multi disc player, DVD, camcorder, video game or stereo system, etc.....
YPbPr can support these video formats:480i,576i,480p,576p,720p,1080i.

PC

STEPS:

Be sure both the TV and computer are set to Power off.
1.Connect VGA and audio cable.
2.Connect the power cord.
3.Power on the TV, switch to PC mode.
4.Power on the PC.
This sequence is very important.



PRESET MODE

	RESOLUTION	V.Freq.(Hz)	H.Freq.(KHz)
1	720*400	70	31.47
2	640*480	60	31.47
3	640*480	75	37.50
4	800*600	60	37.88
5	800*600	75	46.88
6	1024*768	60	48.36
7	1024*768	70	56.48
8	1024*768	75	60.02
9	1280*1024	60	63.98
10	1280*1024	75	80.00

5-2 HDMI Connections

When the source device supports HDM
How To Connect

1. Connect the source device to HDMI port of this TV with an HDMI cable(not supplied with this product).
2. No separated audio connection is necessary.

How To Use
If the source device supports Auto HDMI function, the output resolution of the source device will be automatically
set to 1280x720p.
If the source device does not support Auto HDMI, you need to set the output resolution appropriately.
To get the best picture quality, adjust the output resolution of the source device to 1280x720p.
Select HDMI input source in input source option of Select Main source menu.

When the source device supports DVI
How To Connect
1. Connect the source device to HDMI port of this TV with a HDMI-to-DVI cable(not supplied with this product).
2. A separated audio connection is necessary.
3. If the source device has an analog audio output connector, connect the source device audio output to DVI Audio In port located on the PC port.

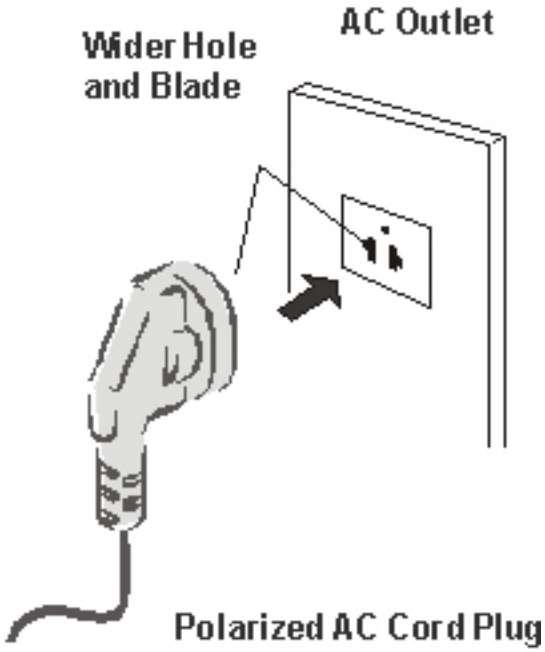
How To Use
If the source device supports Auto DVI function, the output resolution of the source device will be automatically
set to 1280x720p.
If the source device does not support Auto DVI, you need to set the output resolution appropriately.
To get the best picture quality, adjust the output resolution of the source device to 1280x720p.
Press the INPUT button to select HDMI input source in input source option of Select Main source menu.
Installation

Cable sample

	HDMI Cable (not supplied with the product)
	HDMI to DVI Cable (not supplied with the product)
	Analog Audio Cable (Stereo to RCA type) (not supplied with the product)

Connecting Headphones

You can connect a set of headphones to your set if you wish to watch a TV programmer without disturbing the other people in the room.



Power source

TO USE AC POWER SOURCE

Use the AC polarized line cord provided for operation on AC.
Insert the AC cord plug into a standard polarized AC outlet.
NOTES:

■ Never connect the AC line cord plug to other than the specified voltage.
Use the attached power cord only.

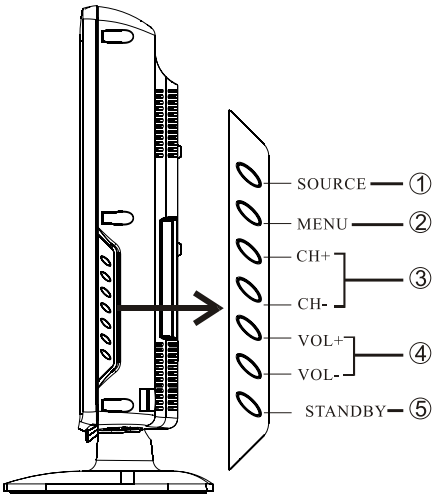
■ If the polarized AC cord does not fit into a non-polarized AC outlet,
do not attempt to file or cut the blade. It is the user`s responsibility to have an
electrician replace the obsolete outlet.

■ If you cause a static discharge when touching the unit and the unit fails to function, simply unplug the unit from the AC outlet and plug it back in. The unit should return to normal operation.

6. Operation Instructions

Basal information

6-1 Front panel controls



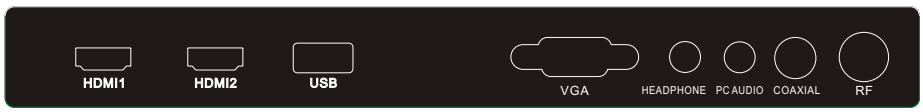
1. SOURCE: Display the input source menu.
2. MENU: Display main MENU.
3. CH+/CH-: In TV mode, press "CH+" or "CH-" to change the channel up and down. In MENU mode, press "CH+" or "CH-" to select items in standby mode, press "CH+" or "CH-" to turn on the TV.
4. VOL+/VOL-: Adjust sound level. In MENU mode, press "VOL+ " or "VOL- " to adjust the item that you selected.
5. STANDBY: Press this button to turn the unit ON from STANDBY mode. Press it again to turn the set back to STANDBY.

6.2 Back panel controls

REAR Connections

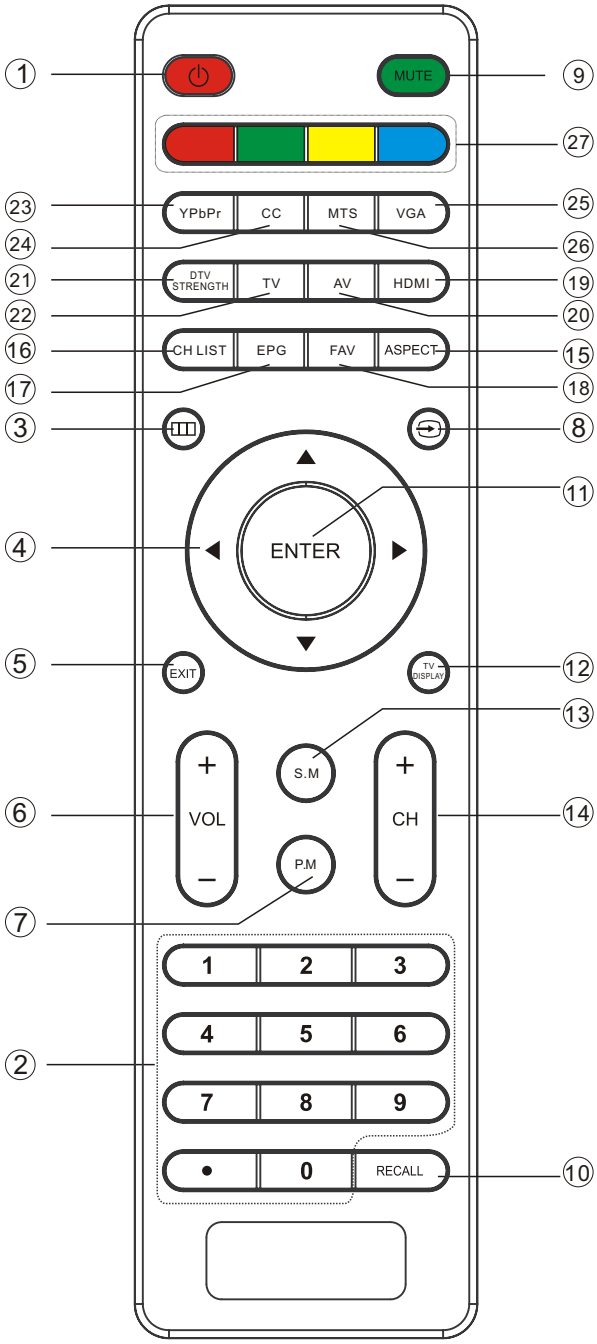
All the terminals are (from left to right):
POWER SOCKET, VIDEO, AUDIO INPUT, YPbPr INPUT
Note: AV and YPbPr share one audio channel.

SIDE Connections



All the terminals are (from left to right):
HDMI1, HDMI2, USB, VGA, HEADPHONE, PC AUDIO, COAXIAL, RF.
Note: 1. When HDMI1 port get DVI signal, the audio signal receives from the PC Audio channel.
2. When HDMI2 port get DVI signal, the audio signal receives from the YPbPr/AV Audio channel.

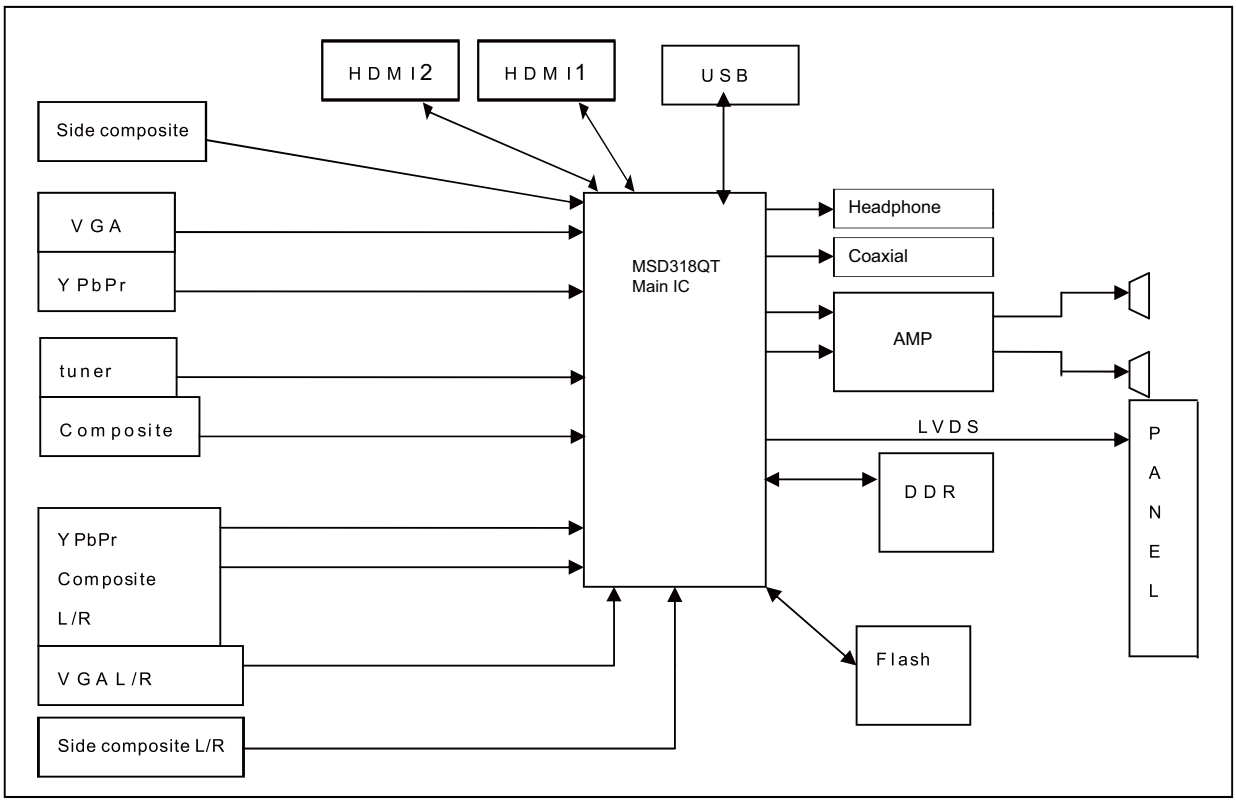
6-3 Setting Up Your Remote Control



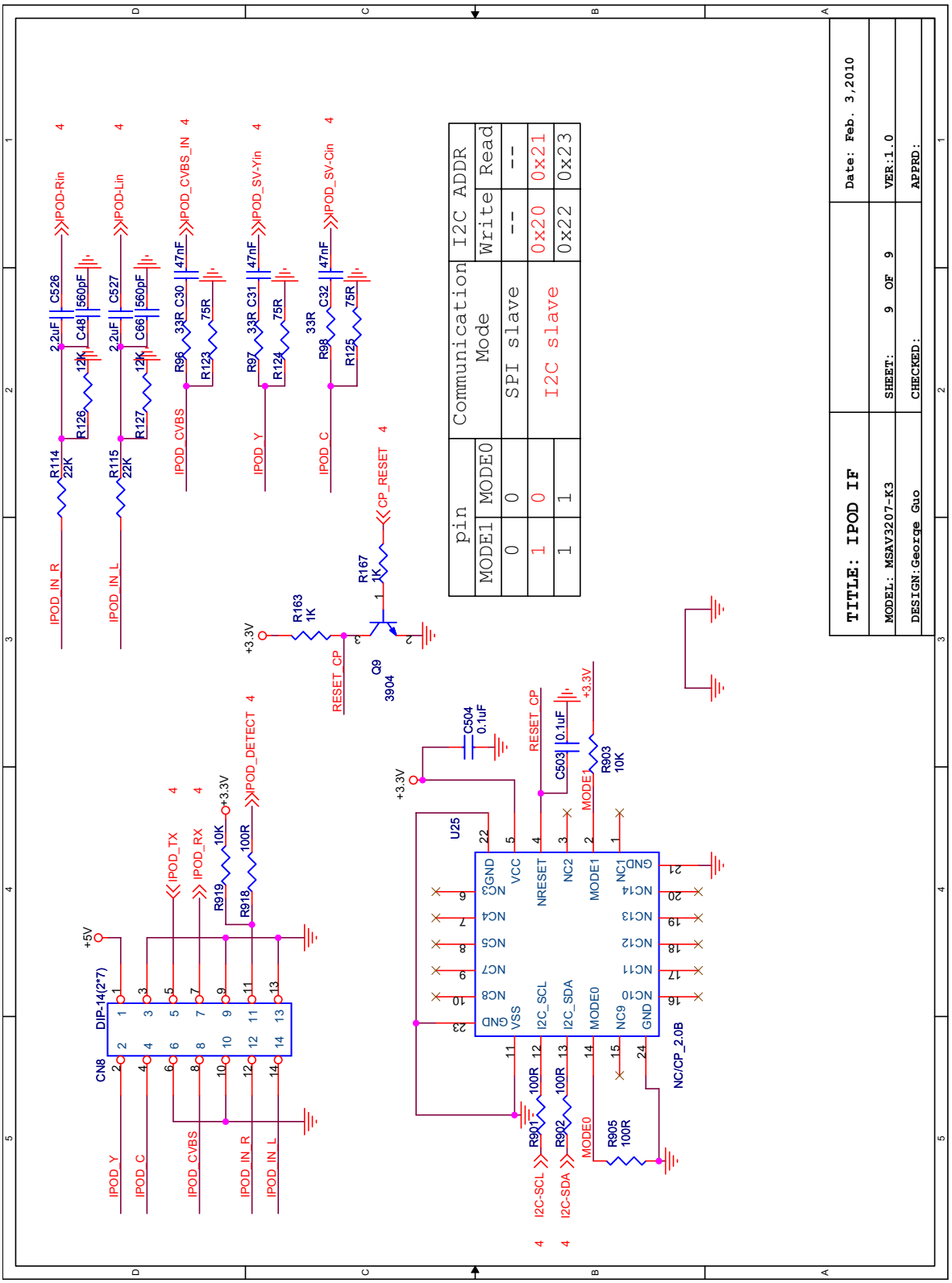
1: **POWER**
To set the TV standby or on.
2: **NUMBER KEY**
For direct access to program.
3:
Displays the main on-screen menu.
4: **CURSOR**
To move within the menu.
5: **EXIT**
Used to exit menu.
6: **VOL+/-**
To adjust sound level.
7: **P.M**
To switch picture mode.
8:
Press to display and select the available video sources.
9: **MUTE**
To disable or enable the sound.
10: **RECALL**
To access the previously viewed program.
11: **ENTER**
Confirms selection.
12: **TV DISPLAY**
Displays/removes the program Information
13: **S.M**
To switch sound mode.
14: **CH+/CH-**
To access the next or previous Program.
15: **ASPECT**
To change picture aspect .
16: **CH LIST**
Used to display the channel list.
17: **EPG**
Display all the information of DTV programs.
18: **FAV**
Used to access your favourite channels in digital TV mode.
19: **HDMI**
Hot key directly go to HDMI source.
20: **AV**
Hot key directly go to AV source.
21: **DTV STRENGTH**
Used to display the DTV signal strength menu.
22: **TV**
Hot key directly go to TV source.
23: **YPbPr**
Hot key directly go to YPbPr source.
24: **CC**
Enable or disable the CC function.
25: **VGA**
Hot key directly go to VGA source.
26: **MTS**
Switch the sound stereo.
27: **COLOR KEYS**
Reserved keys

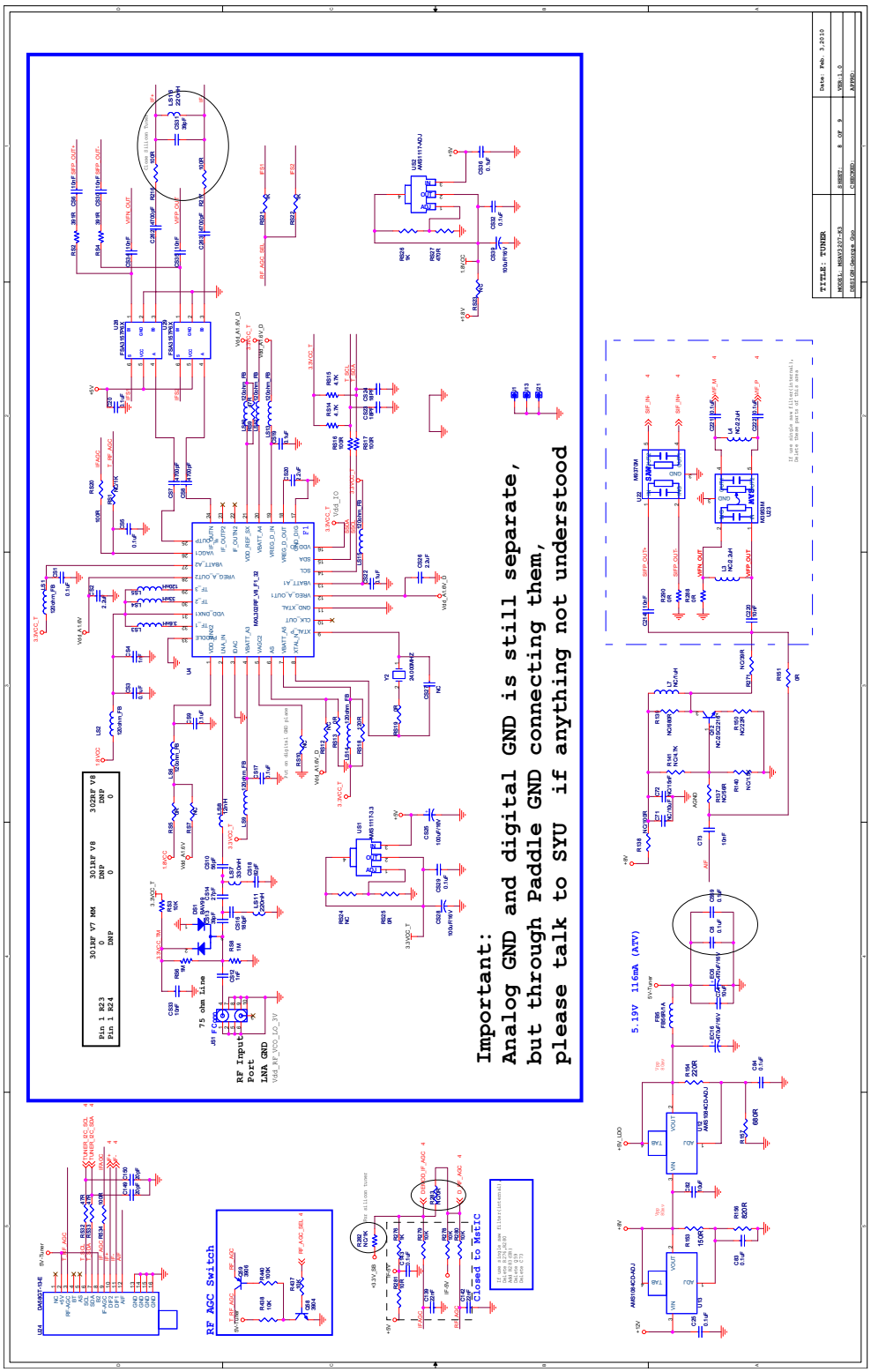
7. Electrical parts

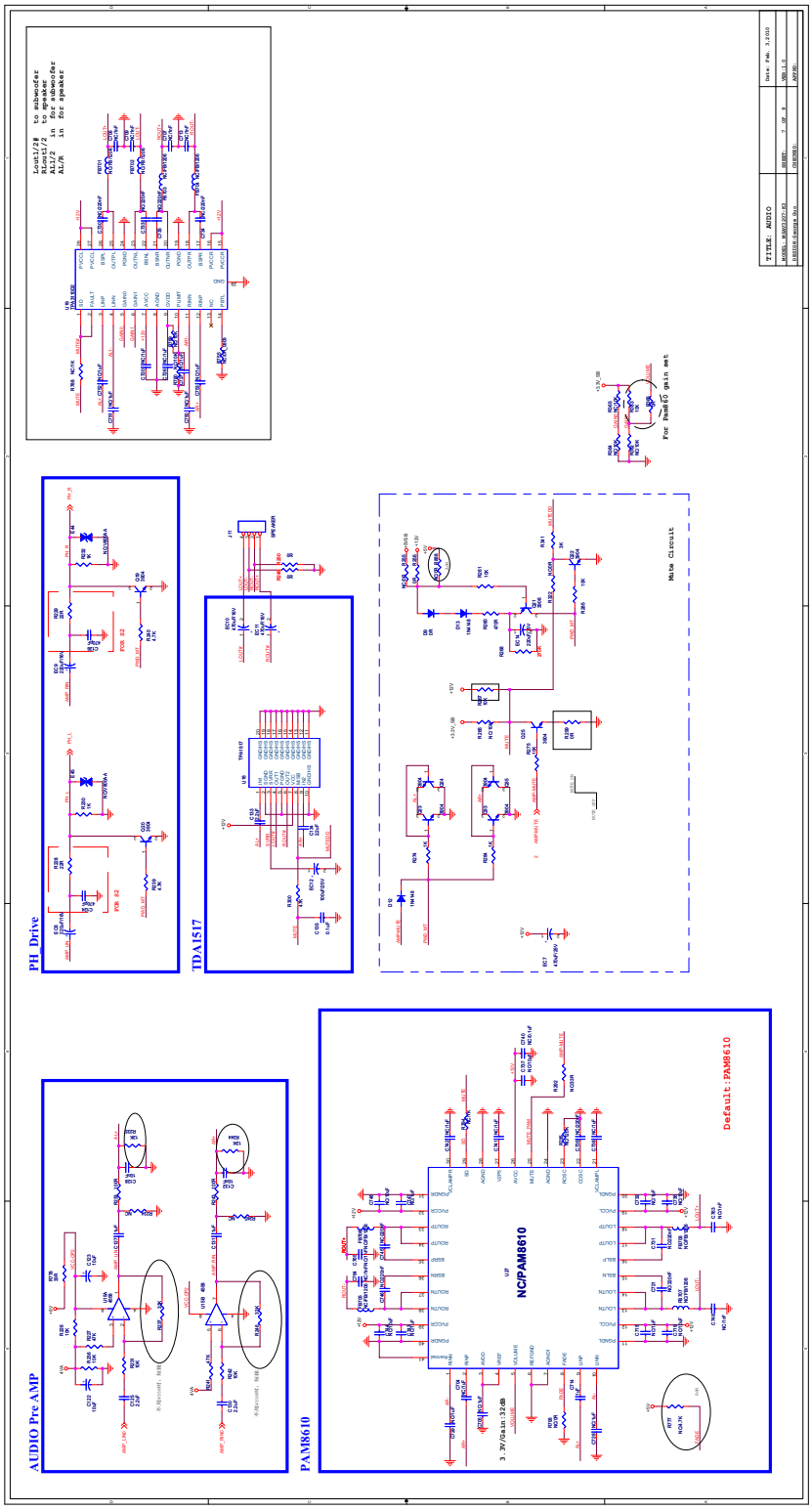
7-1. Block diagram

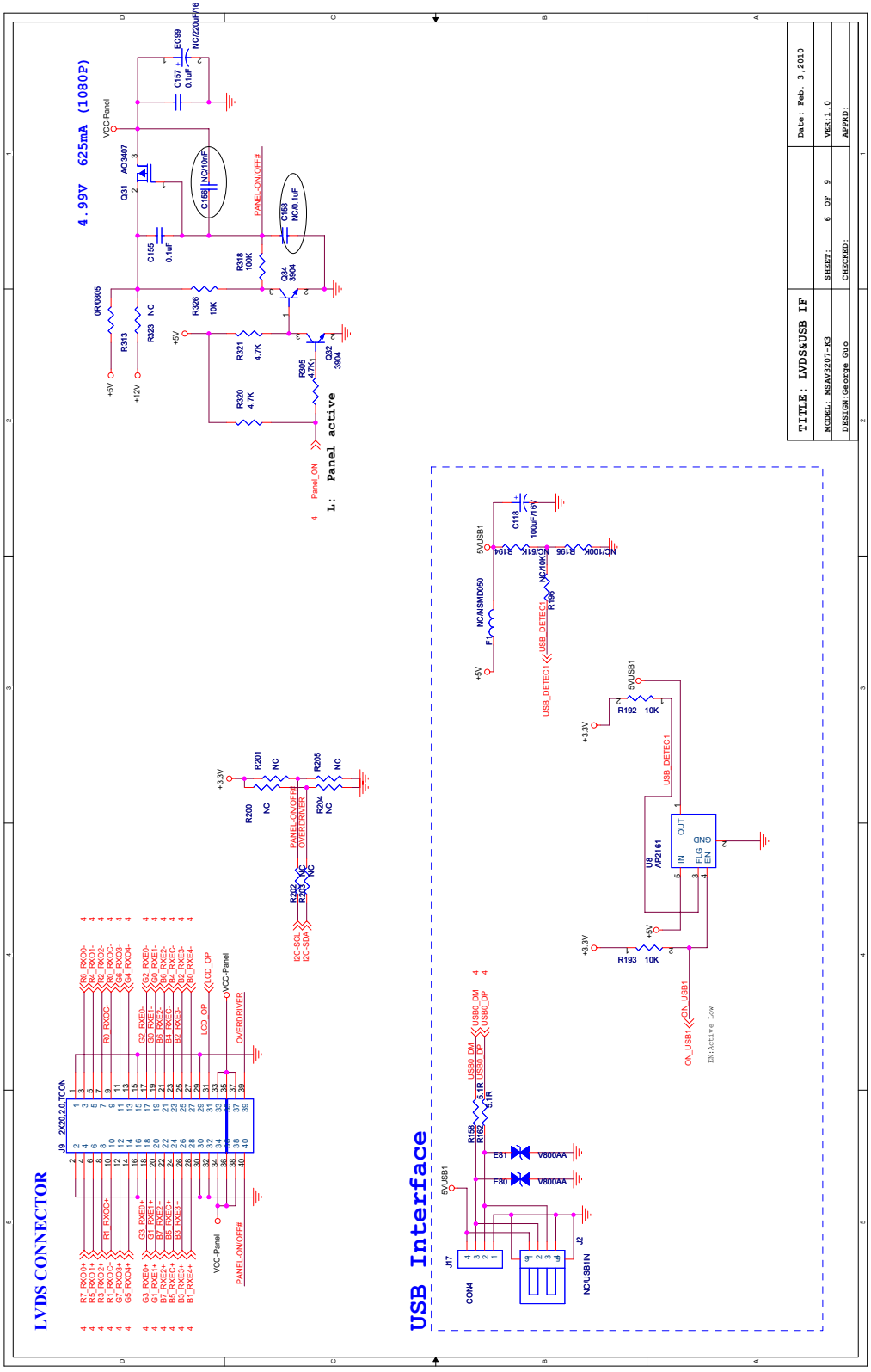


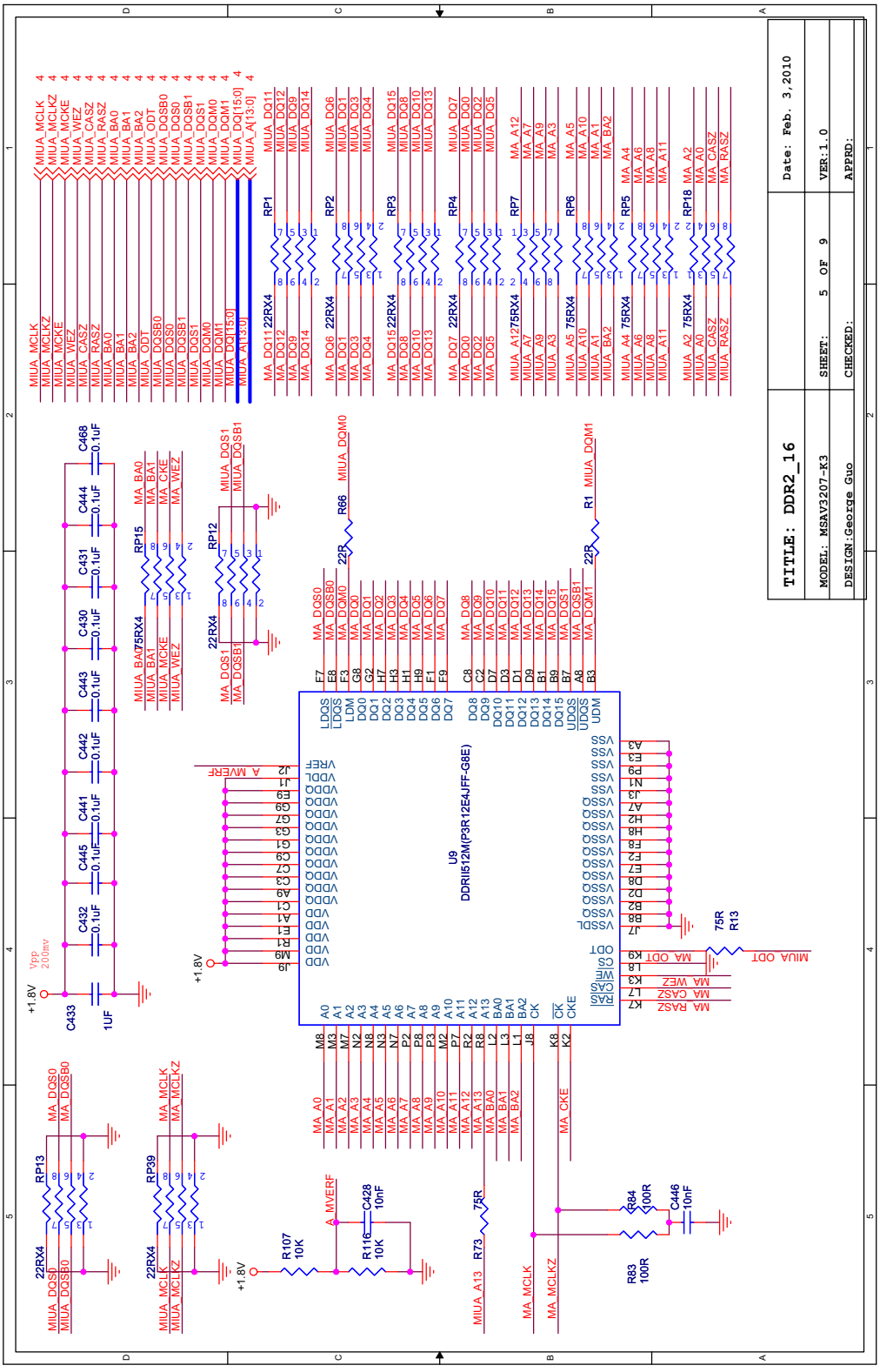
7-2. Circuit Diagram

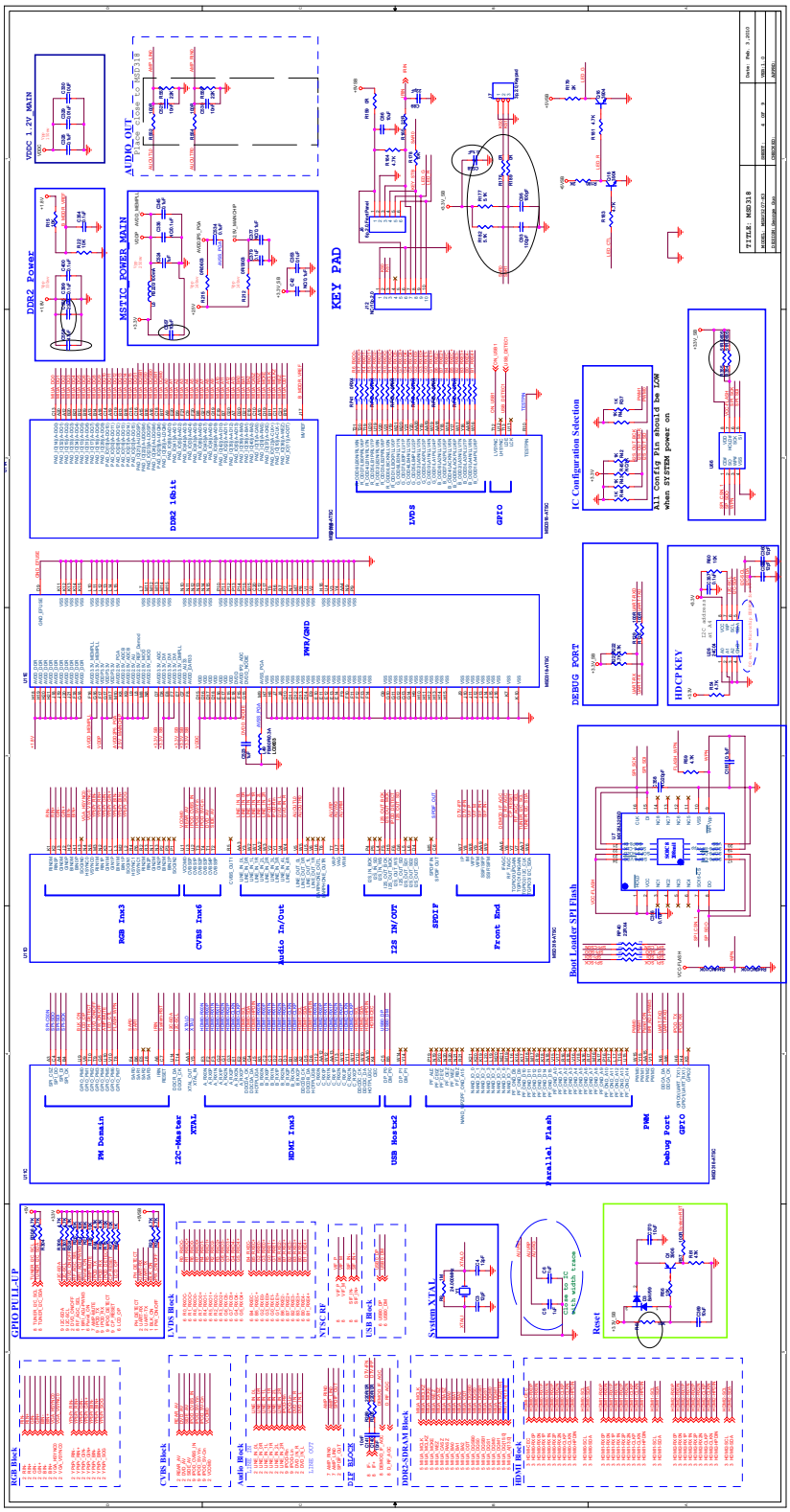


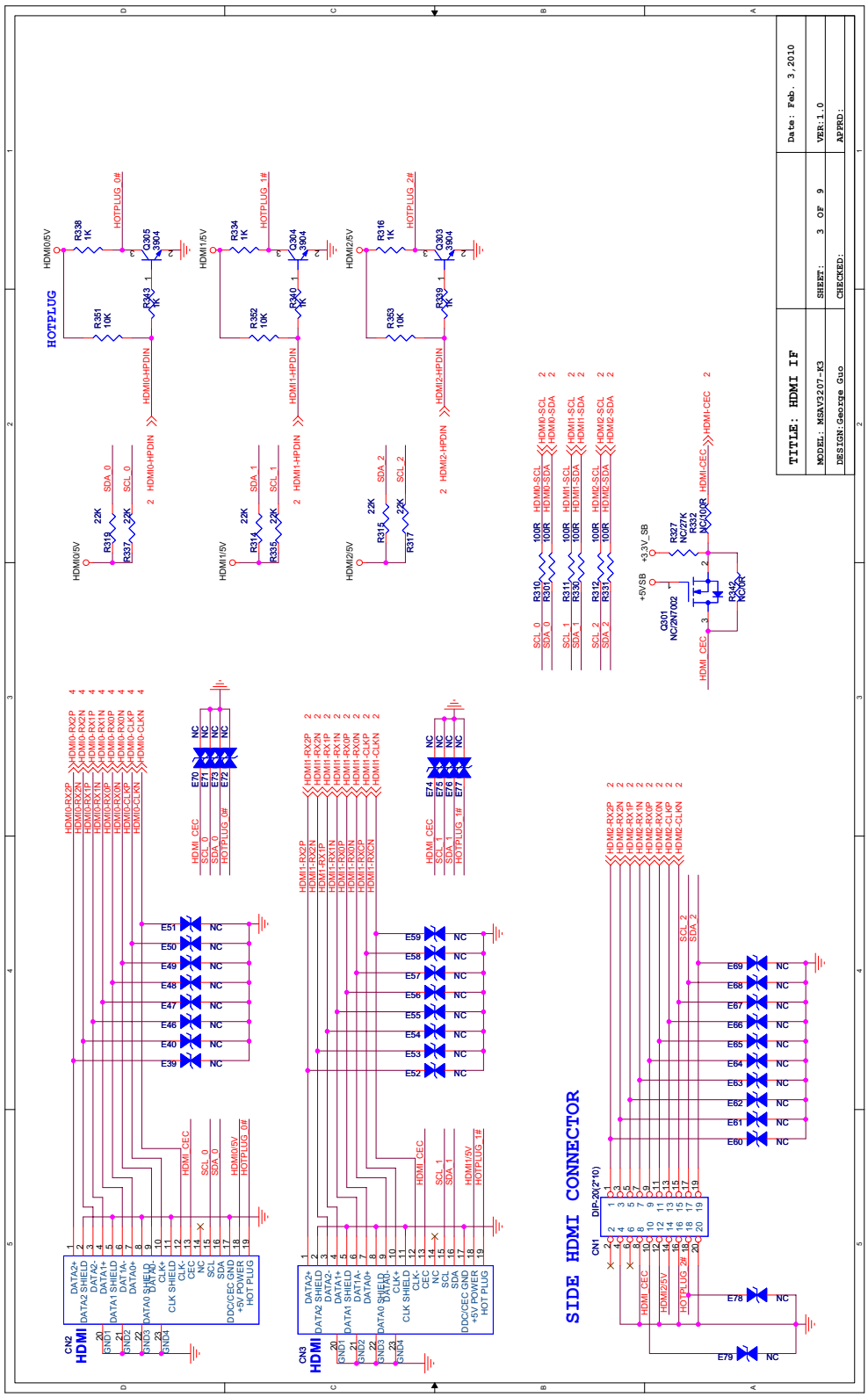

Important:
Analog GND and digital GND is still separate,
but through Paddle GND connecting them,
please talk to SYU if anything not understood
RF Input Port
LNA GND
RF AGC Switch
Closed to Metic
5.19V 116mA (ATV)
TITLE: TUNER

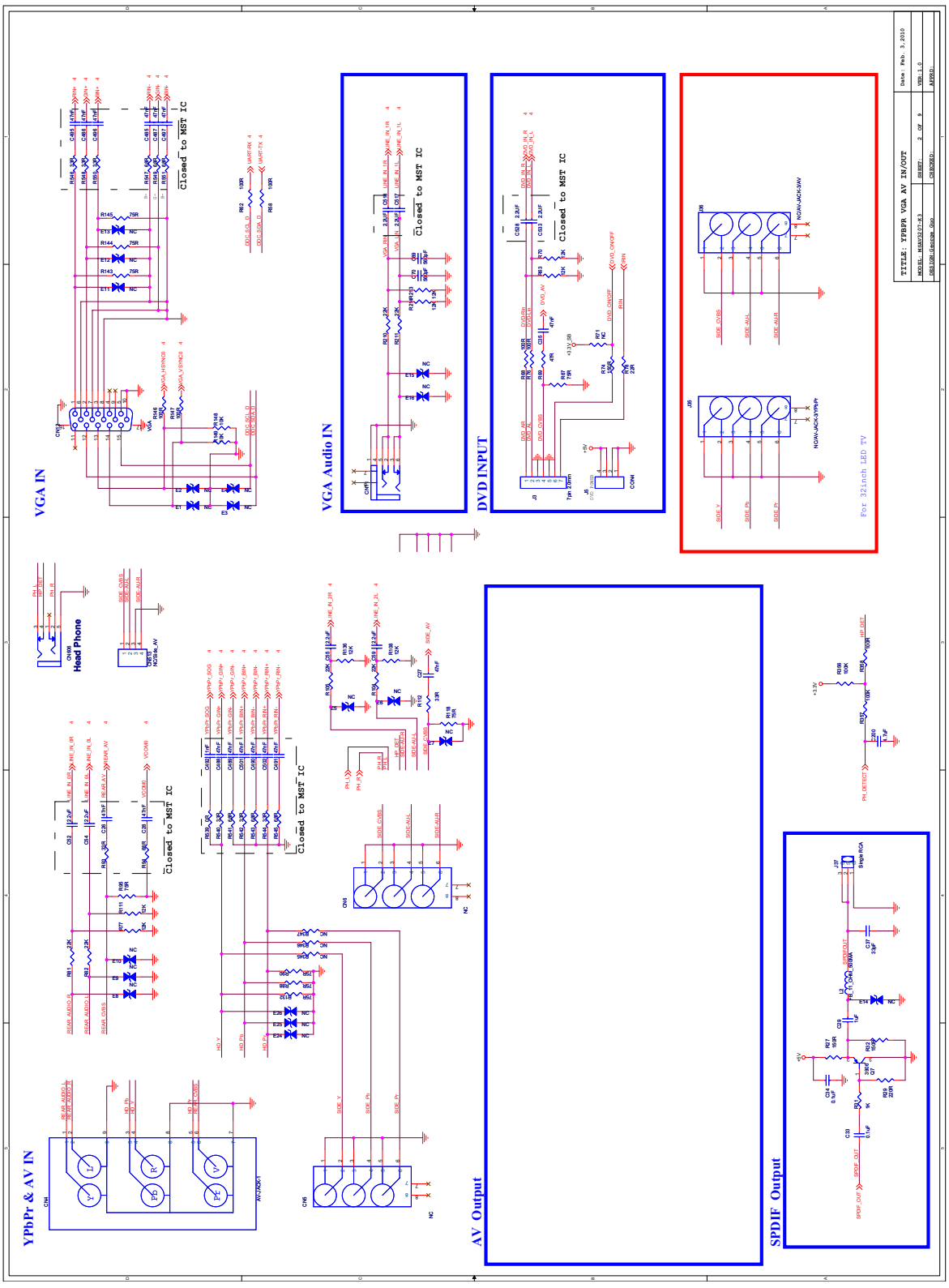

PH Drive
TDA1517
AUDIO Pre AMP
PAM8610
Default:PAM8610
NCP/PAM8610
Main Circuit
For Panel@ gain set
3.3V/Gain:32dB

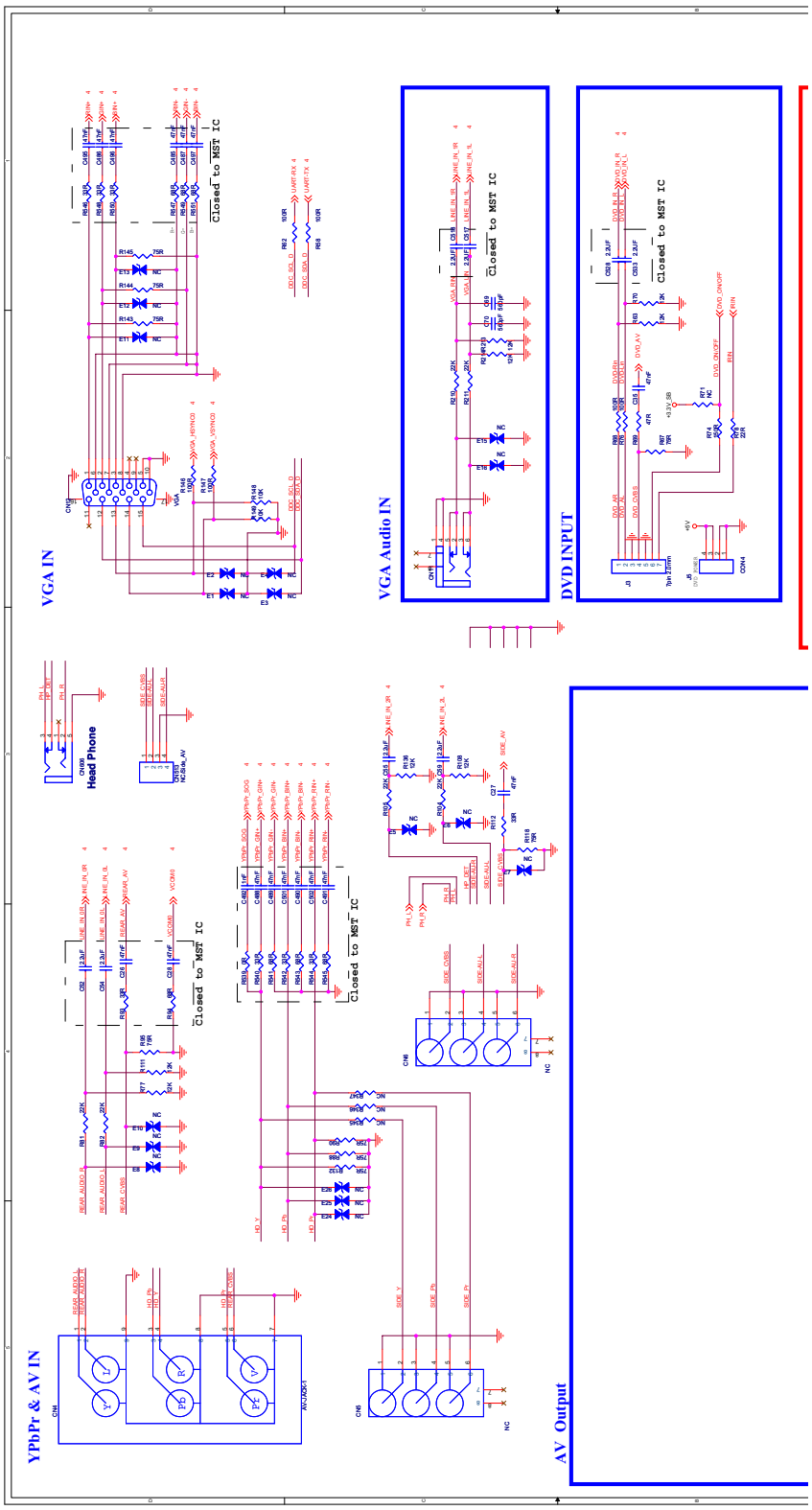

LVDS CONNECTOR
USB Interface
4.99V 625mA (1080P)
L: Panel active
TITLE: LVDS&USB IF
Date: Feb. 3,2010
MODEL: MSAV3207-K3
SHEET: 6 OF 9
VER:1.0
DESIGN:George Guo
CHECKED:
APPRD:


TITLE: DDR2_16
Date: Feb. 3,2010
MODEL: MSAV3207-X3
SHEET: 5 OF 9
VER:1.0
DESIGN:George Guo
CHECKED:
APPRD:
U9
DDRII512M(P3R12E4JFF-G8E)
MIUA_MCLK
MIUA_MCLKZ
MIUA_MCKE
MIUA_WEZ
MIUA_CASZ
MIUA_RASZ
MIUA_BA0
MIUA_BA1
MIUA_BA2
MIUA_ODT
MIUA_DQSB0
MIUA_DQS0
MIUA_DQSB1
MIUA_DQS1
MIUA_DQM0
MIUA_DQM1
MIUA_DQ[15:0]
MIUA_A[13:0]
MA_DQ11
MA_DQ12
MA_DQ9
MA_DQ14
MA_DQ6
MA_DQ1
MA_DQ3
MA_DQ4
MA_DQ15
MA_DQ8
MA_DQ10
MA_DQ13
MA_DQ7
MA_DQ0
MA_DQ2
MA_DQ5
MIUA_A12
MIUA_A7
MIUA_A9
MIUA_A3
MA_A5
MA_A10
MA_A1
MA_BA2
MA_A4
MA_A6
MA_A8
MA_A11
MA_A2
MA_A0
MA_CASZ
MA_RASZ
MA_ODT
MA_WEZ
MA_RASZ
MA_CASZ
MA_CKE
MA_CLK
MA_CLKZ
MA_BA0
MA_BA1
MA_BA2
MA_A0
MA_A1
MA_A2
MA_A3
MA_A4
MA_A5
MA_A6
MA_A7
MA_A8
MA_A9
MA_A10
MA_A11
MA_A12
MA_DQS0
MA_DQSB0
MA_DQM0
MA_DQS1
MA_DQSB1
MA_DQM1
MA_DQ0
MA_DQ1
MA_DQ2
MA_DQ3
MA_DQ4
MA_DQ5
MA_DQ6
MA_DQ7
MA_DQ8
MA_DQ9
MA_DQ10
MA_DQ11
MA_DQ12
MA_DQ13
MA_DQ14
MA_DQ15
A_MVERF
+1.8V
1UF
C433
C432
C445
C441
C442
C443
C430
C431
C444
C468
0.1uF
RP1
RP2
RP3
RP4
RP5
RP6
RP7
RP18
RP15
RP12
RP13
RP39
22RX4
75RX4
22R
75R
R66
R1
R13
R73
R107
R116
R84
R83
C428
C446
10K
10nF
100R

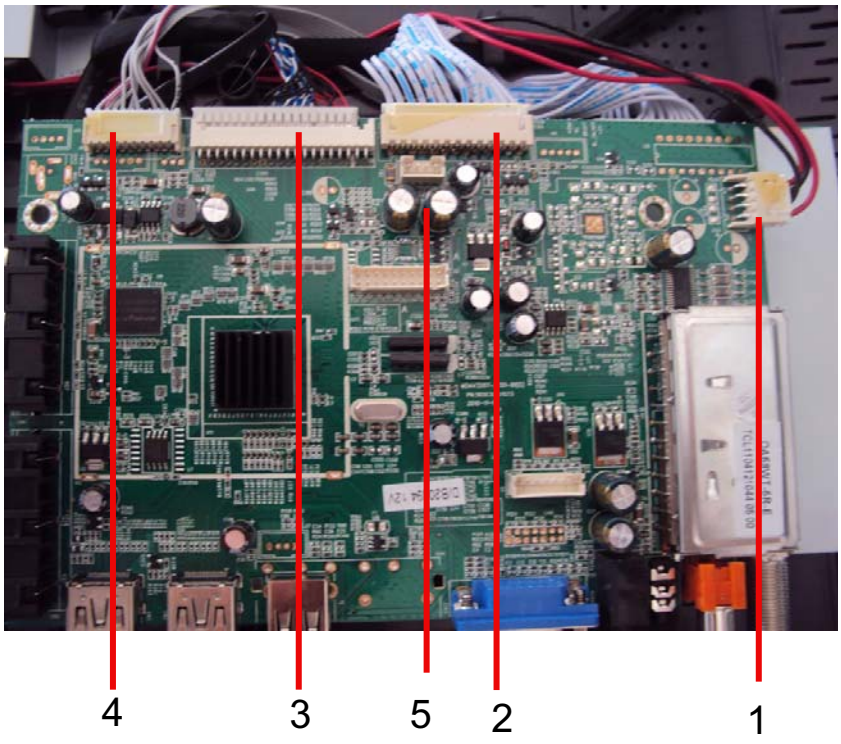

KEY PAD
DDR2 Power
MSTIC_POWER_MAIN
AUDIO_OUT
DDR2 16bit
LVDS
GPIO
IC Configuration Selection
All Config Pin should be LOW
when SYSTEM power on
DEBUG PORT
HDCP KEY
Boot Loader SPI Flash
RGB Ins3
CVBS Ins6
Audio In/Out
I2S IN/OUT
SPDIF
Front End
PM Domain
I2C-Master
XTAL
HDMI Ins3
USB Host2
Parallel Flash
PWM
Debug Port
GPIO
CUPID PU11_LIP
LVDS Block
USB Block
System XTAL
Reset
RGB Block
CVBS Block
Audio Block
I2S Block
DDR2_SSTL18_Main
HDMI Block


SIDE HDMI CONNECTOR
HOTPLUG
TITLE: HDMI IF
Date: Feb. 3,2010
MODEL: MSAV32G7-K3
SHEET: 3 OF 9
VER:1.0
DESIGN:George Guo
CHECKED:
APPRD:


VGA IN
VGA Audio IN
DVD INPUT
YPbPr & AV IN
AV Output
SPDIF Output
Closed to MST IC
Head Phone
For 32inch LED TV


VGA IN
VGA Audio IN
DVD INPUT
YPbPr & AV IN
AV Output
Head Phone
Closed to MST IC

7-3 .Wiring Connection Diagram



NO.N ame	
1	Connection Wire(For Speaker)
2	Connection Wire(Power For Mainboard)
3	LVDS Wire
4	Connection Wire(For Keyboard and Remote)
5	Connection Wire(Control for Backlight on/off)

8. TV OPERATION

1. PICTURE MENU

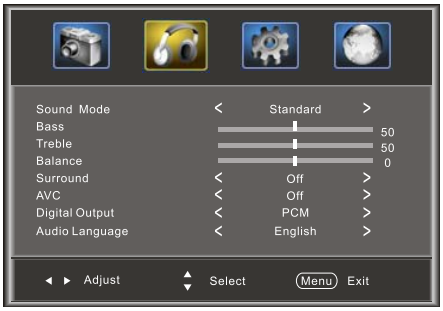
The first item of the MENU is the PICTURE MENU. This menu provides several video adjustment options for fine tuning the video display.
Press ▼▲ to select, press ◀ ▶ to adjust, press MENU to exit.

Note:
If you want to adjust contrast, brightness, color, and sharpness, the picture mode must be set to "Custom".

Advanced Video:
Press ▼▲ to select Advanced Video, press ▶, and the screen shown below will be displayed.

2.AUDIO menu

The second item of the MENU is the AUDIO MENU. You can adjust sound options here.
Press▼▲ to select, press ◀ ▶ to adjust, press MENU to exit.



Note:
The Audio language option is only available for ATSC (DTV) programs.

3. SETUP MENU

The third item of the MENU is the SETUP MENU. You can set system settings here.
Press▼▲to select, press ◀ ▶ to adjust, press MENU to exit.

Note:
Restore Default: Reset all settings to the factory default value.

3.1. Parental Controls:

Press ▼▲ to select Parental Controls, press ▶ , and the screen shown below will be displayed.

Input the password, and you will enter the Parental Control menu. The factory default password is 6666.

Change Password:

Press ▶, and the screen shown below will be displayed.

1). Old password: Input the old password

2). New password: Input the new password

3). Confirm password: Input the new password again

P.G switch:

When the Parental Control is ON, the options shown below can be adjusted.

US: Press ▶, and the screen shown below will be displayed.

1): TV: Press ▶, and the screen shown below will be displayed.

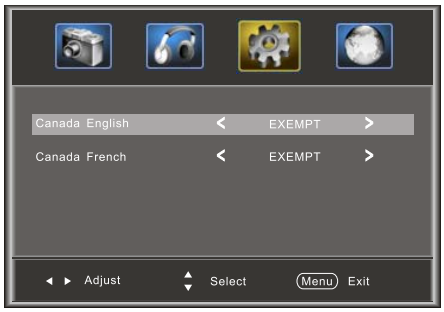
Rating	Content	Content				
		FV (Fantasy violence)	V (Violence)	S (Sexual situation)	L (Adult language)	D (Sexually suggestive dialog)
Suggested age	TV-Y (All children)					
	TV-Y7(Direct to order children)	X				
	TV-G(General audience)					
	TV-PG(Parental Guidance suggested)		X	X	X	X
	TV-14(Parents strongly cautioned)		X	X	X	X
	TV-MA(Mature audience only)		X	X	X	

Press the ENTER key to lock/unlock Parental Controls.

2). MPAA: switch the movie-rating control level: N/A, G, PG, PG-13, R, NC-17, X.

Rating		Description
Age	G	General audiences, All Ages admitted
	PG	Parental Guidance suggested. Some material may not be Suitable for children.
	PG-13	Parents strongly cautioned. Some material .may be Inappropriate for children under 13.
	R	Restrict. Under 17 requires accompanying parent or adult guardian (age varies in some jurisdictions).
	NC-17	No one 17 and under admitted.
	X	X is an order rating that is unified with NC-17 but may be encoded in the data of order movies.

Canada: Press ▶, and the screen shown below will be displayed.



1): Canada English: switch the English-rating control level: EXEMPT, C, C8+, G, PG, 14+, 18+.

Rating		Description
Age	E	Exempt: Includes news, sports, documents and other information programming: talk shows, music videos, and variety programming.
	C	Children: Intended for younger children under the age of 8 years. Pays careful attention to themes that could threaten their sense of securityand well-being.
	C8+	Children over 8 years old: Contains no portrayal of violence as the preferred, acceptable, or only way to resolve conflict; nor encourage children to imitate dangerous acts which they may see on the screen .
	G	General: Considered acceptable for all age groups, Appropriate viewing for the entire family, contains very little violence, physical, verbal or emotional.
	PG	Parental Guidance: Intended for a general audience, but may not be suitable for younger children (under the age of 8) because it could contain controversial themes or issues.
	14+	Over 14 Years: Could contain themes where violence is one of the dominant elements of the storyline, but it must be integral to the development of plot or character. Language usage could be profane and nudity, present within the context of the theme.
	18+	Adults: Intended for viewers 18 years and older and might contain depictions of violence, which while related to the development of plot, character or themes, are intended for adult viewing. Could contain graphic language and portrayals of nudity.

2).Canada French: switch the French-rating control level: E, G,8ANS+,13 ANS+,16ANS+,18ANS+.

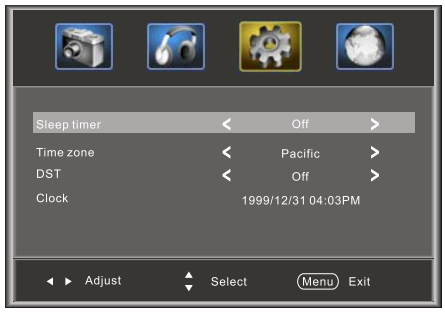
Rating		Description
Age	E	Exempt programming
	G	General: All ages and children, contains minimal direct violence, but may be integrated into the plot in a humorous or unrealistic manner .
	8ans+	General but inadvisable for young children: May be viewed by a wide public audience, but could contain scenes disturbing to children under 8 who cannot distinguish between imaginary and real situations. Recommended for viewing with parental guidance.
	13ans+	Over 13 years: Could contain scenes of frequent violent scenes and intense violence.
	16ans+	Over 16 years: Could contain frequent violent scenes and violence.
	18ans+	Over 18 years: Only for adult viewing. Could contain frequent violent scenes and extreme violence.

RRT setting: in ATSC digital TV mode, it could be adjusted

Reset RRT: Press ▶, and the screen shown below will be displayed.

3.2 Timer

You can adjust timers here.
Press ▼▲ to select, press ◀ ▶ to adjust, press MENU to exit.



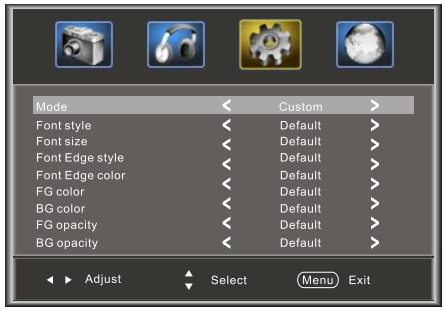
Sleep Timer: You can set the sleep timer.

Note:
Time zone, DST and Clock are available in ATSC mode, and the Clock can't be adjusted.

3.3 Closed Caption: switch the closed caption mode.

Press ▼▲ to select Closed Caption, press ▶ , and the screen shown below will be displayed.

1): Advanced selection: only available in ATSC mode.
2): Option: You can edit the closed caption options.
Press ▶, and the screen shown below will be displayed.



NOTE: Only available in ATSC mode.

3.4 Menu Settings

You can adjust Menu Settings here.
Press ▼▲ to select, press ◄► to adjust, press MENU to exit.

3.5 VGA Settings: Only available in VGA (PC input) mode.

Press ▼▲ to select VGA Settings, press ►, and the screen shown below will be displayed.

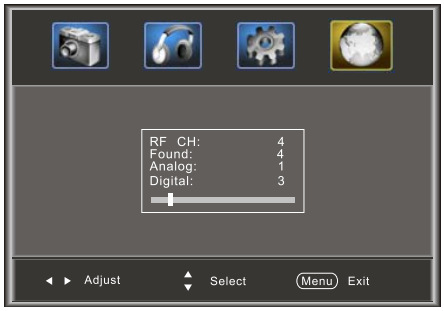
1). H-Pos: Adjust the horizontal position of the screen.
2). V-Pos: Adjust the vertical position of the screen.
3). Clock: Fine tune the screen width.
4). Phase: Fine tune the phase of the screen. Usually you don't need to adjust this item option.
5). Auto: Auto adjust to fit the screen.

4. Channel MENU

The fourth item of the MENU is the Channel MENU. You can adjust digital and analog TV Channel.
Press ▼▲ to select, press ◄► to adjust.

1). Air/Cable: Select Air TV signal or Cable TV signal.
2). Auto Scan: If it's the first time you use the TV, you should scan all the TV channels first.
Press the ► to confirm, and the screen shown below will be displayed.

Select "YES" and press the **ENTER** to confirm, and the screen shown below will be displayed, which indicates that the auto search is progressing.

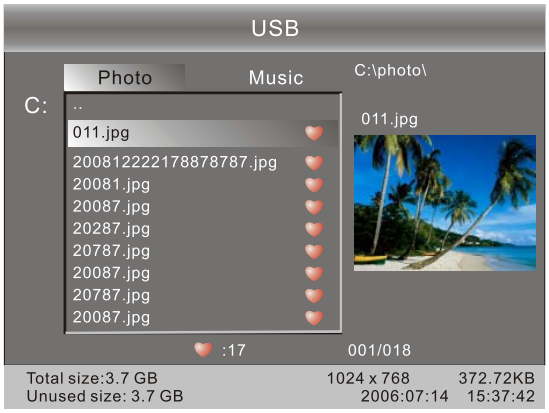


3). Favorite: Press ◄► to add/delete favorite channels.
4). Show/Hide: Press the ENTER button to display or hide channels.
5). Channel NO. : Display the current channel number. Press ◄► to change the channel.
6). Channel label: Press ▲▼ to edit the current channel name.
7). DTV signal: Display DTV signal strength.
It can't be selected and adjusted.

5. Multimedia MENU

If you select the storage source. You can use the Multimedia Menu to display JPEG pictures and play MP3 music.

1. Select a Photo
   The screen shown below will be displayed.



Use ▲▼ select the. Jpg files or folders, press ENTER to play, press EXIT to stop playing or go to the previous menu.

2. Select Music
   The screen shown below will be displayed.

Use ▲▼ select the. MP3 files or folders, press ENTER to play, press EXIT to go to the previous menu.

: play
: pause
: stop
: fast backward
: previous
: next
: fast forward
: repeat all
: random play

8.1 How to enter into the factory model
1. You can press "source-2-5-8-0" to go into factory setting. Presse the key "exit" to shut the factory setting.

Content:

1: ADC setting: set ADC value of YUV,VGA. It can also be auto-set. Adopt 100% color bar to yuv and Checkerboard signal to vga.
2:Color Temp.:
3:Video Quality:
4:Sound Quality:
5:Curve Setting:
6:Aging Mode:
7:Other Setting:
8:SW Upgrade:
9:Shipment:
The first line is SW Ver.No

8.2 How to update software

Haier MSD318QT F/W upgrade with USB SOP

Step 1: Ready for F/W Upgrade

1.1 Prepare a USB memory .

1.2 Copy the software file (merge) from your computer to the USB memory, and remove it from computer's USB port!

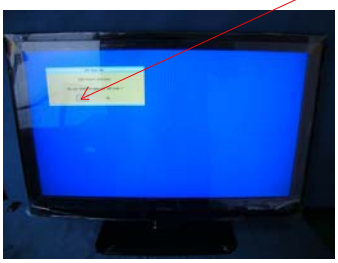
Step 2: F/W Upgrade

2.1 AC ON

2.2,Then input USB, press POWER.

2.3 Then press "source-2-5-8-0" and choose "SW Upgrade",and then press "ENTER".

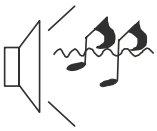
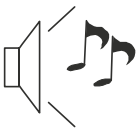
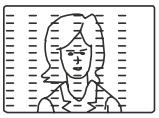
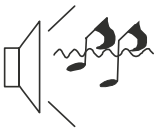
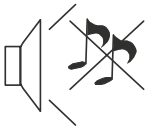
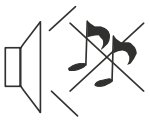
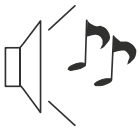
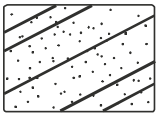
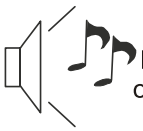
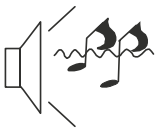
2.4,Now you should choose "Yes" and then press "ENTER" TV begin to update.You should remove the USB memory and reset TV after update.



Note: When Upgrade on the process, please don't Power-Off!

9. Trouble shooting

9-1. Simple check

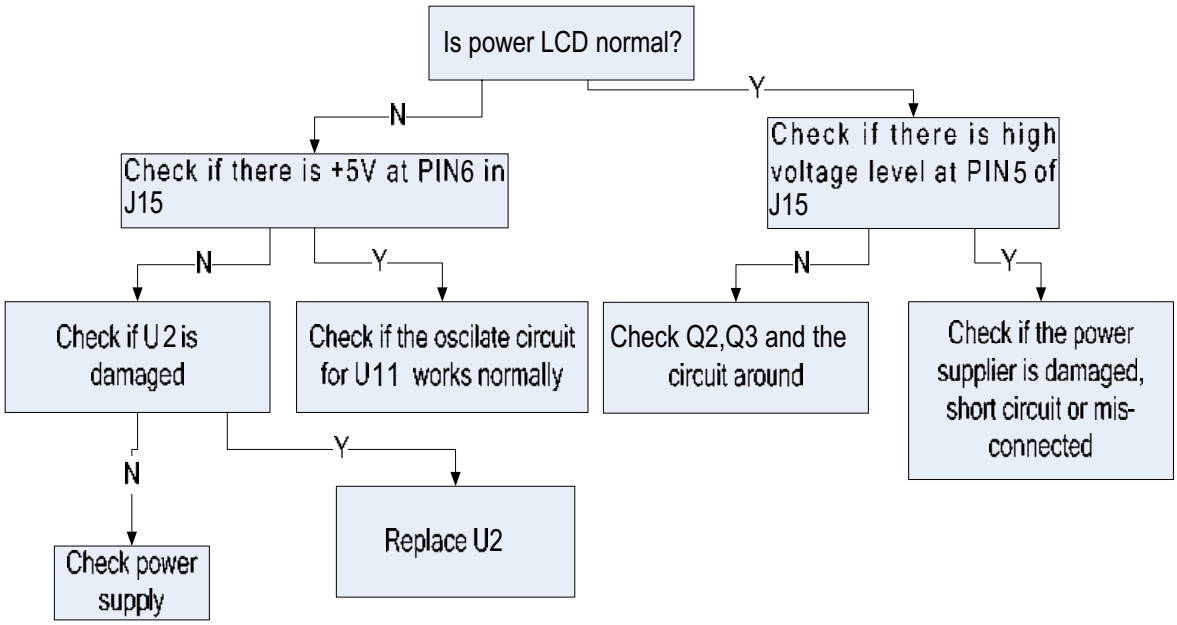
Trouble phenomenon		Inspection
Picture	Audio	
Snow	 Noise	antenna position, direction or connection
Ghost	 Normal audio	antenna position, direction or connection
 Interfere	 Noise	electronic equipment,car/ motorcycle,fluorescent light
Normal Picture	 Mute	Volume(inspect wether the mute function on the remote control are started , or audio system are correct or not)
No picture	 Mute	Power cord is not inserted Power switch is not opened Contrast and brightness/volume setup Press standby key on the remote control for inspecting
No color	 Normal audio	color control
 Scramble	 Normal audio or weak	retune channel
No color	 Noise	Audio system

Special Explanation：The accessories such as remote control is not belongs to the guarantee。

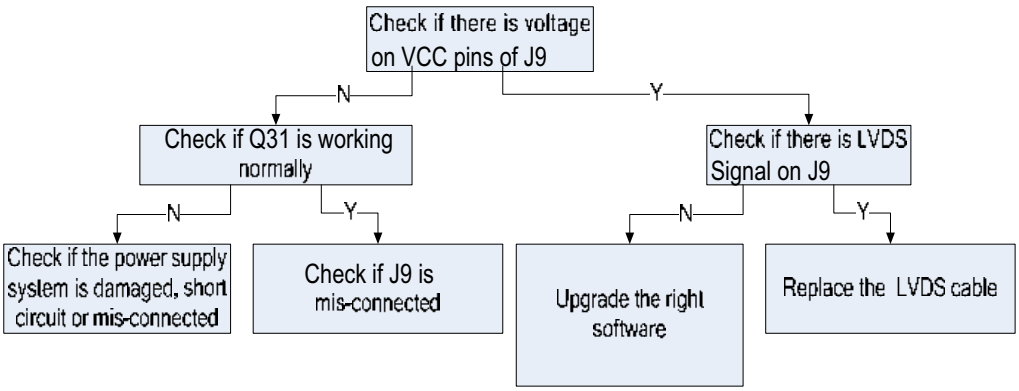
9-2. Main board failure check

Service guide

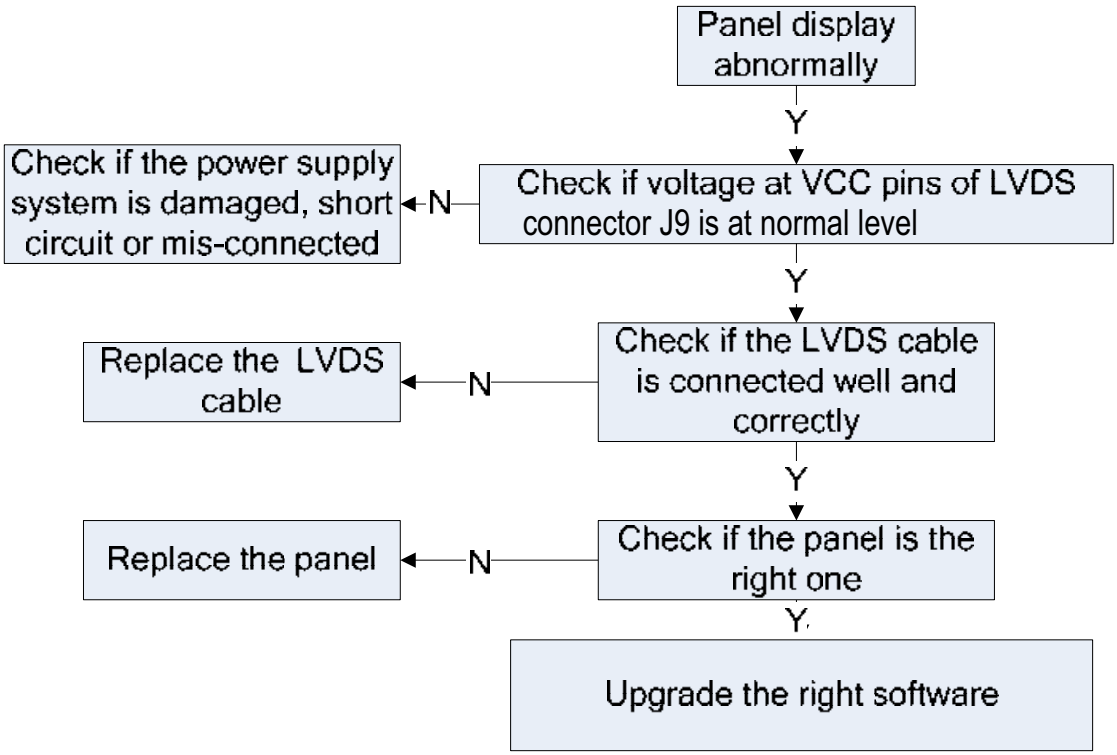
1) Black creen


Is power LCD normal?
N
Y
Check if there is +5V at PIN6 in J15
Check if there is high voltage level at PIN5 of J15
N
Y
N
Y
Check if U2 is damaged
Check if the oscilate circuit for U11 works normally
Check Q2,Q3 and the circuit around
Check if the power supplier is damaged, short circuit or mis-connected
N
Y
Check power supply
Replace U2

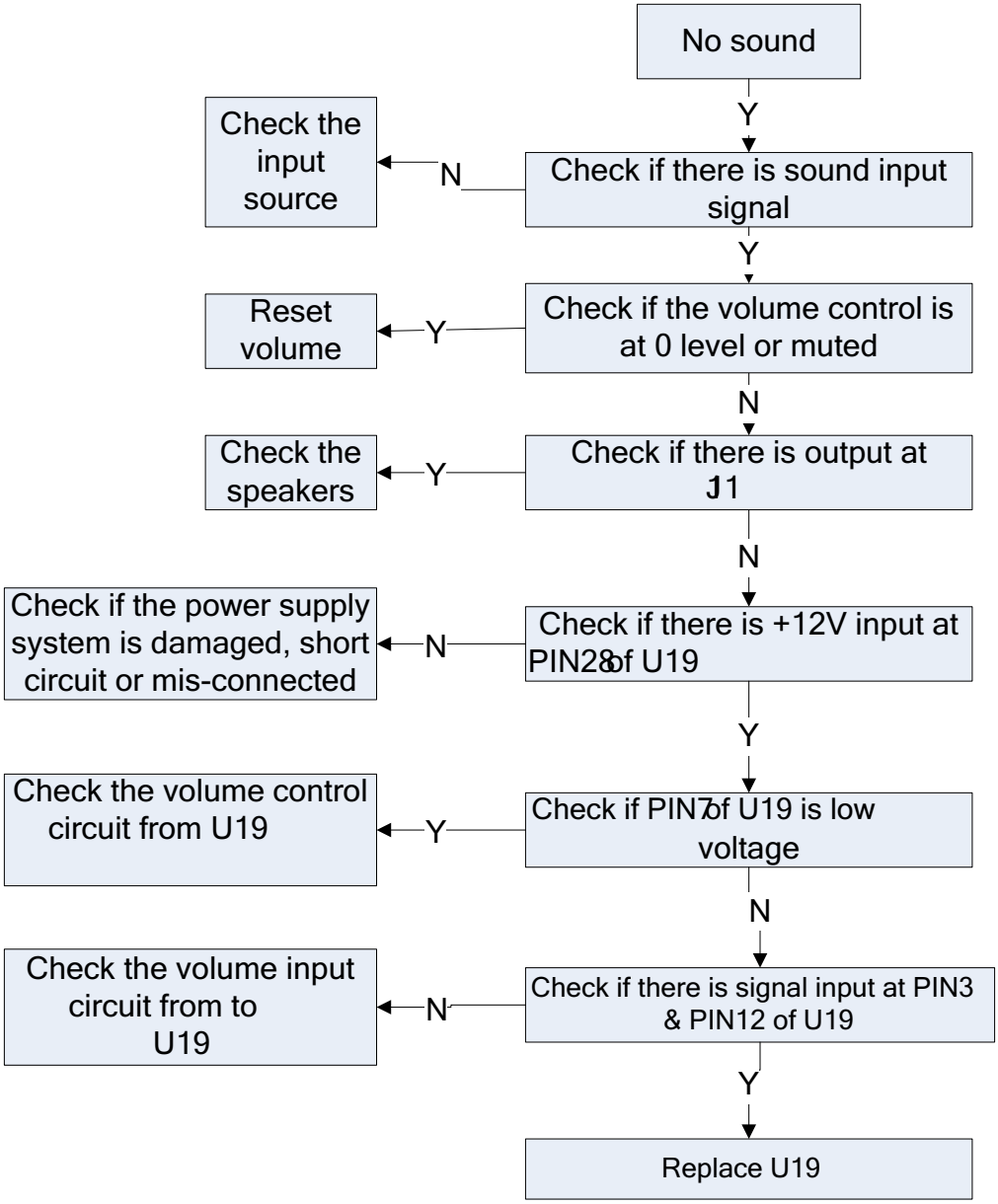
2) White screen


Check if there is voltage on VCC pins of J9
N
Y
Check if Q31 is working normally
Check if there is LVDS Signal on J9
N
Y
N
Y
Check if the power supply system is damaged, short circuit or mis-connected
Check if J9 is mis-connected
Upgrade the right software
Replace the LVDS cable

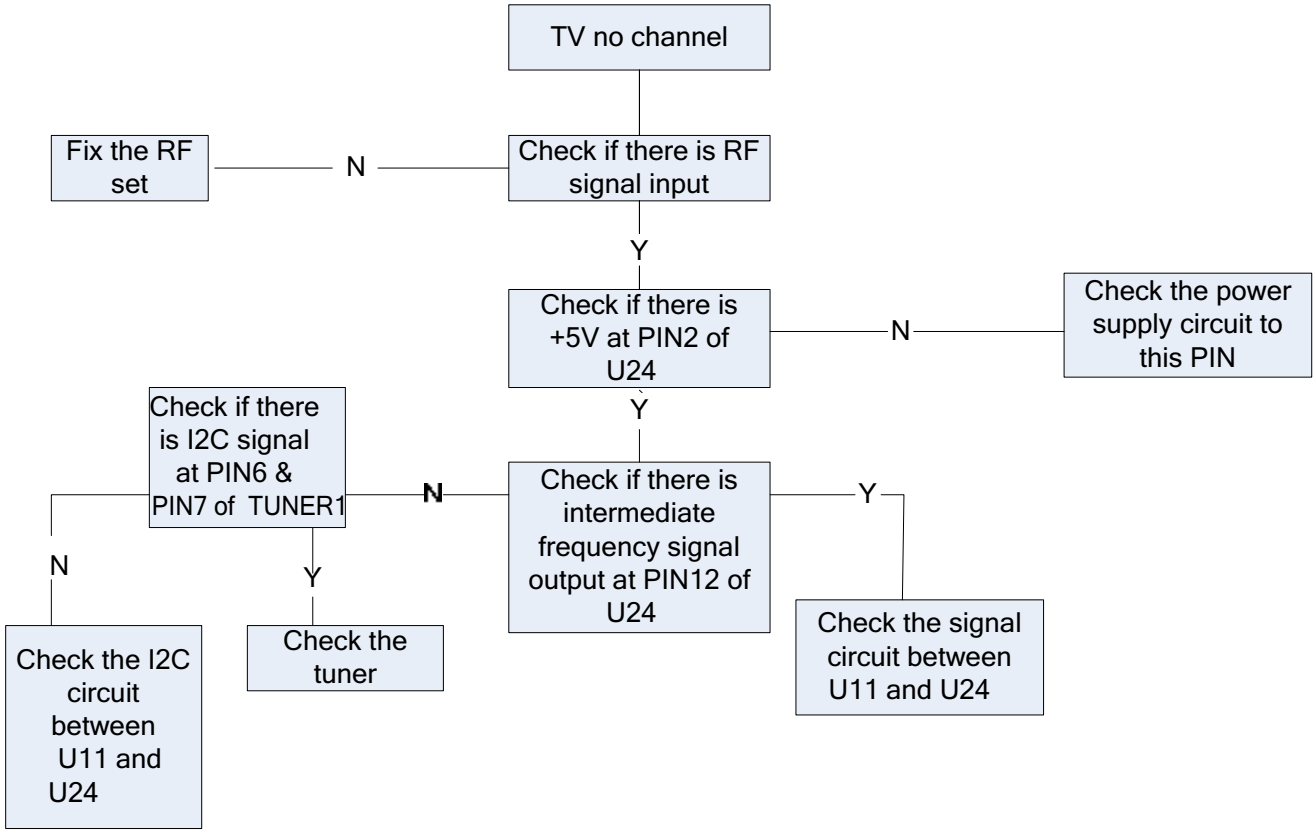
3) Panel display abnormally


Panel display abnormally
Y
Check if voltage at VCC pins of LVDS connector J9 is at normal level
N
Check if the power supply system is damaged, short circuit or mis-connected
Y
Check if the LVDS cable is connected well and correctly
N
Replace the LVDS cable
Y
Check if the panel is the right one
N
Replace the panel
Y
Upgrade the right software

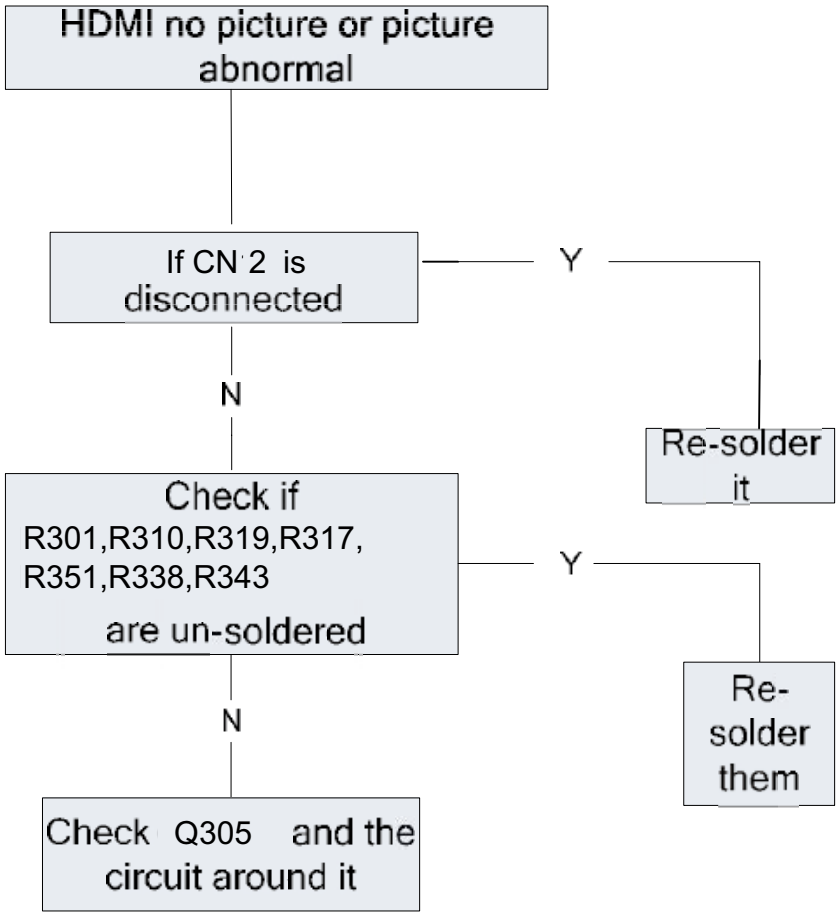
4) No sound


No sound
Y
Check if there is sound input signal
N
Check the input source
Y
Check if the volume control is at 0 level or muted
Y
Reset volume
N
Check if there is output at J1
Y
Check the speakers
N
Check if there is +12V input at PIN28 of U19
N
Check if the power supply system is damaged, short circuit or mis-connected
Y
Check if PIN7 of U19 is low voltage
Y
Check the volume control circuit from U19
N
Check if there is signal input at PIN3 & PIN12 of U19
N
Check the volume input circuit from to U19
Y
Replace U19

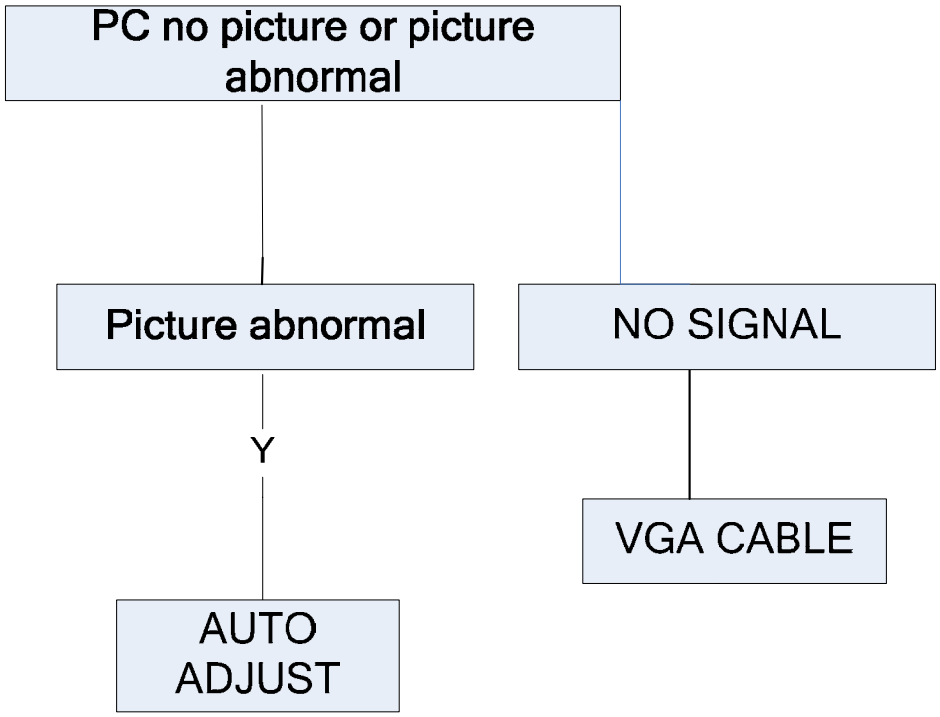
5）TV failure


TV no channel
Check if there is RF signal input
N
Fix the RF set
Y
Check if there is +5V at PIN2 of U24
N
Check the power supply circuit to this PIN
Y
Check if there is intermediate frequency signal output at PIN12 of U24
Y
Check the signal circuit between U11 and U24
N
Check if there is I2C signal at PIN6 & PIN7 of TUNER1
N
Y
Check the I2C circuit between U11 and U24
Check the tuner

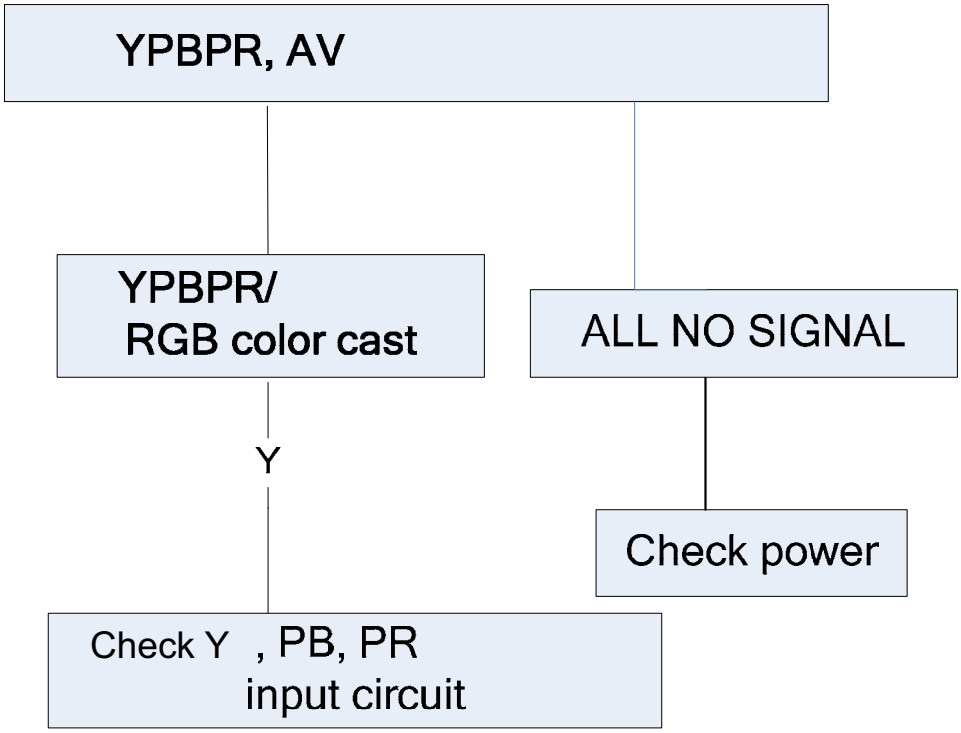
6) HDMI no picture or picture abnormal



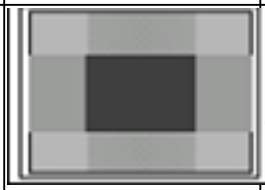
7) PC no picture or picture abnormal



8) YPBPR, AV no picture or picture abnormal



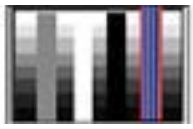
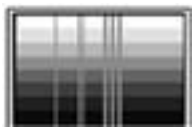
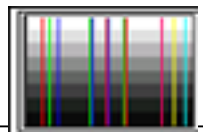
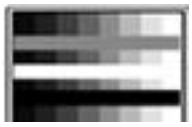
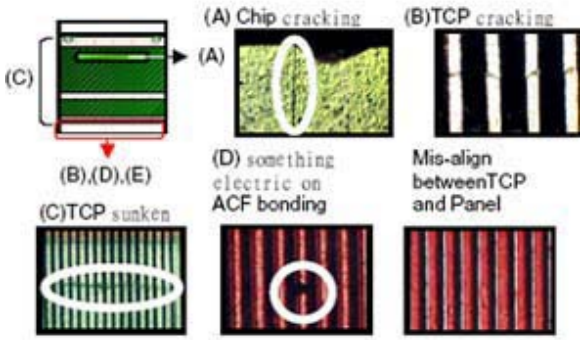
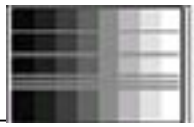
Failure Mode

Part	Name	Description	Phenomena	Failure cause
Circuit	White Screen	B/L normal, only white screen display		Maybe caused by surge current and EDS
	Black Screen	B/L normal, only Black screen display		
	FIIcker	Crosstalk		LCD Vcom imbalance
	Abnormal Color	Only color abormal		Capacitance improper bring crosstalk inside LCD pannel
	Abnormal Color	Only color abnormal		1.Chip lose action 2.IC short or jointion bad 3.Pannel and vsc connect bad

Part	Name	Description	Phenomena	Failure cause
Panel or Polarlzer	Dot Defect	Bright dot dark dot in pannel		Incoming Inspection Standard
	Polarizer Bubble	Bladder in Polarizer		Bladder between Polarizer and top glass
	Polarizer Scratch	Polarizer Scratch		Tine or rigidity arose
	F/M inside Polarizer	Eyewinker inside Polarizer		Eyewinker inside Polarizer
Circuit	Abnormal Display	Abnormal Display		1.Chip lose action 2.IC ahort or jointiog bad 3.Pannel and vsc connect bad
	Flashing	Bright and dark display alternately		

9-3. Pannel failure

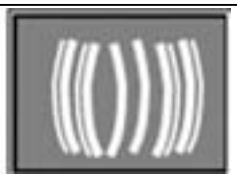
Failure Mode

Part	Name	Description	Phenomena	Failure cause
TCP	V B/D	Vertical bar		Block Defect :TCP cracking or cracking Dim or L/D :TCP Sunken :TCP lead cracking :ACF bonding short :Awful environment and something electric enter into LCD :Mis-align between TCP and Panel :Panel failure :TCP failure
	V Dim	Vertal gray line		
	V L/D	Vertical color line(light or dark forever)		
	H B/D	Horizontal bar		
	H Dim	Horizontal gary line		
	H L/D	Horizontal line(light or dark forever)		

Failure Mode

Part	Name	Description	Phenomena	Failure cause
	Mechanlcal Nolse	When turn panel,appear cacophony		Caused by Mechanica noise of backlight unit
	Ripple	Connectric circle		Causeed by between mechanism and pannel
	B/L off	B/L lose action		*Connect badness between wire and electrode
	B/L dark	B/L brightness darker than normal		*Connect badnessShort between wire and electrode
	B/L wire damaged	B/L wire damaged		Operation abnormal or systemic noise
	B/L wire open	Without backlight		Operation abnormal or systemic noise
	B/L shut down	B/L shutdown in sometime		Short bitween lamp housing and wire, Because consume power too much
	F/M	F/M inB/L ,white,balck Rotundity or wirelike		F/M in B/L unit

Failure Mode

Part	Name	Description	Phenomena	Failure cause
Mechanlcal or B/L	Light leakage	Brightness at bottom of LCM brighter than normal		B/L unit badness
	Uniformity	B/L brightness asymmetric		Sheet in B/L unit is uneven
	Mount hole	Lack screw or screw damage		*Lack screw Screw damage

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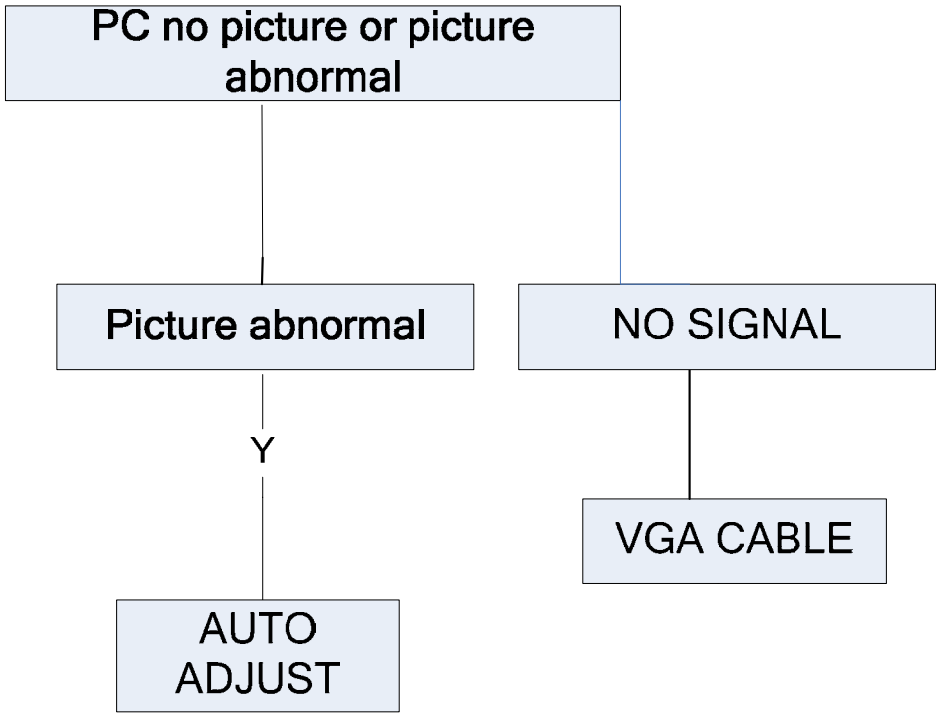
Haier Group

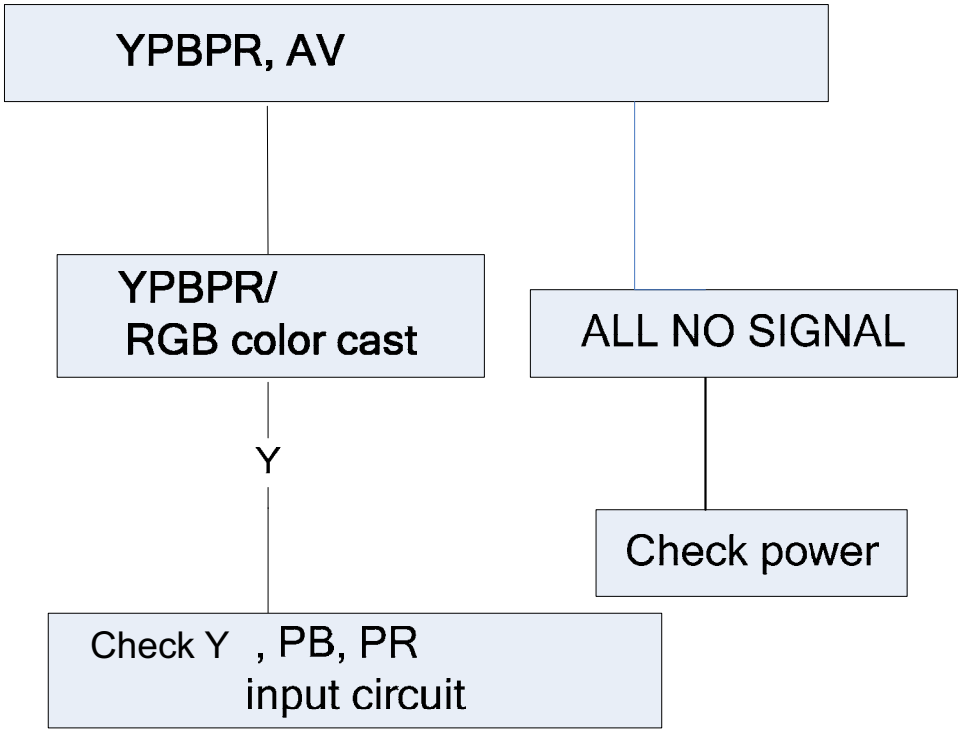
Haier Industrial Park, No.1, Haier Road
266101, Qingdao, China
http://www.haier.com

Printed in China

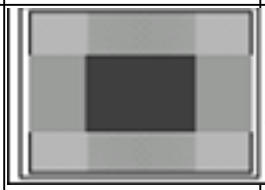
7) PC no picture or picture abnormal



8) YPBPR, AV no picture or picture abnormal



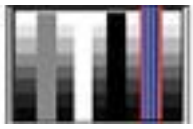
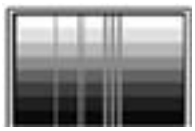
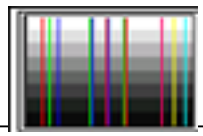
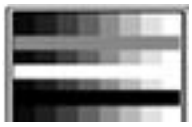
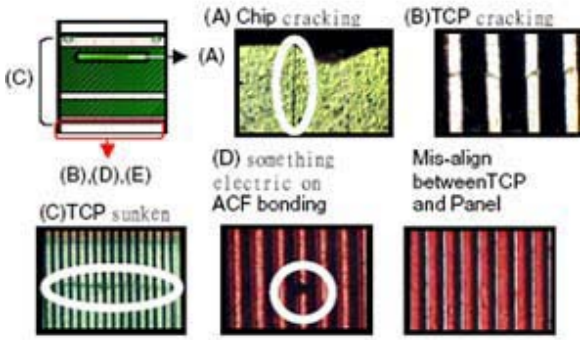
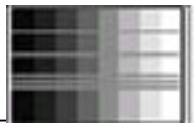
Failure Mode

Part	Name	Description	Phenomena	Failure cause
Circuit	White Screen	B/L normal, only white screen display		Maybe caused by surge current and EDS
	Black Screen	B/L normal, only Black screen display		
	FIIcker	Crosstalk		LCD Vcom imbalance
	Abnormal Color	Only color abormal		Capacitance improper bring crosstalk inside LCD pannel
	Abnormal Color	Only color abnormal		1.Chip lose action 2.IC short or jointion bad 3.Pannel and vsc connect bad

Part	Name	Description	Phenomena	Failure cause
Panel or Polarlzer	Dot Defect	Bright dot dark dot in pannel		Incoming Inspection Standard
	Polarizer Bubble	Bladder in Polarizer		Bladder between Polarizer and top glass
	Polarizer Scratch	Polarizer Scratch		Tine or rigidity arose
	F/M inside Polarizer	Eyewinker inside Polarizer		Eyewinker inside Polarizer
Circuit	Abnormal Display	Abnormal Display		1.Chip lose action 2.IC ahort or jointiog bad 3.Pannel and vsc connect bad
	Flashing	Bright and dark display alternately		

9-3. Pannel failure

Failure Mode

Part	Name	Description	Phenomena	Failure cause
TCP	V B/D	Vertical bar		Block Defect :TCP cracking or cracking Dim or L/D :TCP Sunken :TCP lead cracking :ACF bonding short :Awful environment and something electric enter into LCD :Mis-align between TCP and Panel :Panel failure :TCP failure
	V Dim	Vertal gray line		
	V L/D	Vertical color line(light or dark forever)		
	H B/D	Horizontal bar		
	H Dim	Horizontal gary line		
	H L/D	Horizontal line(light or dark forever)		

Failure Mode

Part	Name	Description	Phenomena	Failure cause
	Mechanlcal Nolse	When turn panel,appear cacophony		Caused by Mechanica noise of backlight unit
	Ripple	Connectric circle		Causeed by between mechanism and pannel
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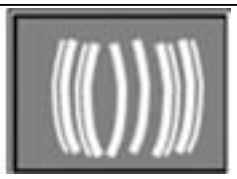
	B/L wire open	Without backlight		Operation abnormal or systemic noise
	B/L shut down	B/L shutdown in sometime		Short bitween lamp housing and wire, Because consume power too much
	F/M	F/M inB/L ,white,balck Rotundity or wirelike		F/M in B/L unit

Failure Mode

Part	Name	Description	Phenomena	Failure cause
Mechanlcal or B/L	Light leakage	Brightness at bottom of LCM brighter than normal		B/L unit badness
	Uniformity	B/L brightness asymmetric		Sheet in B/L unit is uneven
	Mount hole	Lack screw or screw damage		*Lack screw Screw damage

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Haier Industrial Park, No.1, Haier Road
266101, Qingdao, China
http://www.haier.com

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